THE CONDOR

A Magazine of Western Ornithology

Volume XVI July-August, 1914 Number 4

COOPER ORNITHOLOGICAL CLUB

CONTENTS

Entered as second-class matter February, 1908, at the post office at Los Angeles (Hollywood Station), California, under Act of Congress of March 3, 1879.
Issued from the Office of The Condor, First National Bank Building, Hollywood, Cal.

THE·CONDOR
A·MAGAZINE·OF
WESTERN·ORNITHOLOGY·

Volume XVI July-August, 1914 Number 4

A PLEA FOR COMPARATIVE OOLOGY

By DR. T. W. RICHARDS, U. S. Navy

PROBABLY there is no natural history pursuit which has had more active and enthusiastic devotees than that which involves the collection of birds' eggs and the study of nidification in general, though too often the latter is looked upon as an altogether secondary consideration. The egg collections in this country—and I am sure the same may be said of Europe and Australia—greatly outnumber the collections of skins, and consequently there are many collectors who are thoroughly familiar with the intricate variations in a large number of birds' eggs and yet are quite uninformed regarding the main anatomical or external characteristics of the birds themselves, excepting, perhaps, the commoner species of their own immediate localities. This has given rise to no little adverse criticism, sometimes thinly veiled, on the part of other investigators, and little as we may relish these admonitions it may as well be admitted frankly that there is much justice in this attitude. Over-specialization in any subject, is bad, and I think that oologists should recognize this principle: he who takes a comprehensive interest in ornithology, and indeed, general zoology, and informs himself accordingly, will be not only much better equipped to pursue his own specialty, but will derive far more profit and enjoyment therefrom. Oology has its appropriate setting in the natural order of things and we cannot afford to ignore this environment.

In conceding so much, however, it may be well to point out that there are certain issues, which, while easily leading to endless contention, are barren of useful results. Thus, the systematist who occupies himself so industriously in the—to him—paramount business of making "sub-species" has little sympathy for the individual who is content to "brood over birds' eggs," as Professor Newton puts it; while on the other hand, the oologist and field collector cannot be expected to wax enthusiastic over what, in his eyes, appears to be simply a fruitless attempt to form academic "characters" out of imperceptible

differences having no objective reality. Whether the work of the systematist or that of the oologist is the more important is not material, after all; their results should be mutually helpful and supplementary and the real value of either must depend upon the ability of the individual and his capacity for accurately ascertaining and interpreting *facts*.

It has been said of oology that "hardly any branch of the practical study of natural history brings the enquirer so closely in contact with many of its secrets," and probably it is this feature which gives it so wide an appeal. Probably a large majority of oologists find the most fascinating aspect of their pursuit in investigations afield. For many students of nature, and their number is steadily increasing, this is enough, and it behooves us, as collectors, to enquire why we are not content with this phase only; in other words, what is the real purpose behind our laborious collection, preparation and arrangement of the specimens themselves? Doubtless there are various reasons: with certain individuals, happily few in number, let us hope, the formation of an egg collection is, at best, merely a pastime, or perhaps one manifestation of a very general human weakness, namely, acquisitiveness, the desire to obtain simply for the gratification of possessing and, particularly, possessing "more than the other fellow." To others an egg collection may make an esthetic appeal, through the beauty and infinite variety of the specimens, rather than their intrinsic interest. While most of us might confess to a certain sympathetic understanding of this latter point of view it will hardly be contended that the end justifies the means: as has often been pointed out, beads or marbles would do as well.

As a matter of fact, it will be found that nearly all private collections in this country are what might be termed "faunal" collections, the primary object of the collector being, apparently, to obtain the eggs of all birds breeding or otherwise occurring within a certain region, say the United States or some section thereof or, more commonly, North America as a whole. Properly conducted this is doubtless a legitimate aim, but it seems to me that it falls so far short of the real story our cabinets should relate that it ought to be an altogether secondary consideration. From this point of view it is difficult to see how a collection of eggs representing, say, every species of summer resident within the District of Columbia, advances our sum of knowledge one whit beyond an accurate record of the same eggs actually observed *in situ*. It is true that a local collection, of any kind, possesses a certain educational value, for a visual demonstration that such and such birds breed within the District makes a more lasting impression than a mere statement to that effect; but such collections are more appropriate for local schools, museums or other similar institutions.

Is there, then, nothing to justify the oft-repeated claim that oology should be accorded the dignity of a scientific pursuit and that careful study of a collection of eggs may, in itself, afford information obtainable in no other way? Surely there is, provided, however, that the collection is built up on logical principles. Science has been defined as "knowledge gained and verified by exact observation and correct thinking, especially as methodically formulated and arranged in a rational system." Let us note that this does not specify the kind or the quantity of knowledge required, but only how we should obtain and utilize it. Now it is obvious that *some* information may be obtained from a systematic collection of *any* particular class of objects, whether eggs, skins

or teapots; also, that such information should be as complete and accurate as possible. With the information or "knowledge" so available the intelligent collector will proceed to *methodically formulate and arrange it in a rational system,* and when he has done so he is perfectly justified in claiming scientific results, so far as they go. The point too often overlooked is that isolated observations are of little value: they must be correlated.

If we attempt to apply some process of investigation to a "faunal" collection the weakness of the latter becomes at once apparent. To make this clearer let us consider a complete but restricted one like that from the District of Columbia. We will find that it contains two species of falcons' eggs, *F. sparverius* and *F. p. anatum.* The eggs of the Duck Hawk are much larger and darker than those of the Sparrow Hawk, but there is a certain likeness in the type of markings; is this a general characteristic of all falcon's eggs or a peculiarity shared by a few? We must go farther afield to answer this query. I find in my cabinets the eggs of more than a score of falcons: *F. mexicanus* and *phaloena* from California, *fusco-coerulescens* from Texas, *columbarius* from Assinaboia, *paulus* from Florida, *subbuteo, anatum, tinnunculus* and *aesalon* from the British Isles, *vespertinus* from Hungary, *eleonorae* from Greece, *sacer* from Russia, *cenchris* from Asia Minor, *obscurus* from Siberia, and so on through *japonicus* to the distant shores of the Pacific. In latitude there is likewise a wide distribution as shown by *rusticolus* and *gyrfalco* from Lapland and Iceland, *cenchroides, unicolor* and others from Australia, and finally, *rupicola* and *rupicoloides* from South Africa. The genus is practically cosmopolitan, the various species nest in almost every possible situation (except under ground), a series of eggs presents a wonderful diversity in color and marking, yet all are distinctly true to one type: each one could be picked out as a falcon's egg and, so far as I am aware, could be mistaken for none other. (Eggs of the Honey Buzzards, *Pernis,* and certain Polyborine species—for example *Milvago chimango*—seem to approach them most closely.)

I think it will be evident that such information is both interesting and desirable, but for its demonstration a collection must be formed along rather definite lines, based on the natural relations of birds rather than on their geographical distribution. Such a "group" collection need not, of course, be universal in scope, but should embrace as many genera, families or orders as the collector's means and opportunities permit, the main point being to make it as complete and accurate as practicable within its natural limitations. Of course a general collection of this sort presents many difficulties and, for most of us, would entail prohibitive expense. Hence, I would by no means advise every collector to lightly go in for exotic material of all sorts—and I speak from many years' experience—nor is this essential. A faunal collection may be amplified in special directions, and this is being done already to some extent. Thus the *Mniotiltidae* have long been favorites with American collectors. In Europe this is more common, and I know one collector who has a marvellous array of eggs of the *Tubinares* and *Lariformes,* and another who specializes in the *Fringillidae* while endeavoring to complete a faunal collection of the British Isles.

But the faunal idea seems to be an obsession with many collectors, and they carry it to the absurd degree of separating entirely their American and "foreign" material. It would be quite as logical to arrange our Bald Eagles' eggs so that those of the Alaskan form are placed in the top drawer, along with

the ducks and auklets, while specimens from Florida would be located at the bottom, congenially surrounded by spoonbills and limpkins! To my way of thinking the oologist who, with a given amount of time (and money) starts out to illustrate all that is ascertainable about the nidification of, say, our North American *Icteridae,* can accomplish far more in the way of scientific results than by attempting to accumulate a "set" of every known form on the A. O. U. List.

While the number of problems open to investigation by the intensive study of a group collection is almost endless, the inviting road towards broad generalizations is far less easy than it seems; for on every hand there is abundant opportunity for false and hasty conclusions which will inevitably carry us far afield. Hence, the systematists are prone to complain that we can afford them little assistance in their labors, as likeness or dissimilarity in birds' eggs cannot generally be relied upon to indicate a corresponding degree of relationship among the birds themselves. Let us cheerfully admit it, proceed to show where the correspondence begins and ceases and then, if possible, ascertain *why.* But in many cases the correspondence is really very close; such examples as those of the owls, tinamous and shore-birds will occur to all, and it is said that the relationship of this last group to the gulls and terns was first pointed out by oologists. Even small groups are sometimes sharply defined, such as the peculiar markings characteristic, I believe, of the genus *Myiarchus.*

On the other hand, the many exceptions, while difficult and confusing, are no less interesting and would doubtless prove equally informing if we held the explanatory key. Thus, eggs of the herons are greenish, while those of the slightly differentiated bitterns may be nearly white or decidedly brown, but are still unspotted. Among their allies, the ibises and spoonbills, however, variation runs riot and we find plain white (e. g., *Ibis molucca*), light greens, dark greens and spotted types in great diversity. Such examples become particularly puzzling when we observe that certain species, even more closely allied, occupying the same restricted habitat, and having identical methods of nidificaton, may yet produce eggs extremely unlike; as an American example compare the whitish, spotted eggs of *Toxostoma bendirei* with the plain, greenish specimens of its neighbor, *T. crissalis.*

It is particularly in the investigation of such facts that the group collection, of restricted scope, should be of value. Suggestive facts may be forthcoming; thus, if we consider the eggs of the *Mimidae* as a whole we find that while nearly all are commonly spotted, those that are plain (e. g., *T. crissalis, G. carolinesis*) seem to always adhere to that type, while in the other forms there is an occasional tendency to lightly marked or unmarked examples. Let us contrast this with an illustration from the genus *Accipiter;* eggs of *fuscus* and *nisus* are, typically, richly marked, those of *cooperi* are commonly plain, while specimens of *cirrhocephalus* (Australian) in my collection are intermediate. But I have one set of *cooperi* (taken by Bingaman) which shows about as much superficial coloring as average specimens of *B. borealis,* while eggs with a few faint spots are not uncommon. Apparently in the genus *Accipiter* either the habit of laying plain eggs has not yet become fixed in any species, as it has with some *Mimidae,* or, more probably, I think, the habit of laying colored eggs has been newly acquired and is not yet universal. We cannot say positively, yet it does seem as if in certain groups we could trace indications of a progressive increase or decrease in egg-pigmentation, which is actually in pro-

cess of development. Though the process is far too slow for direct observation it is probably exceedingly rapid in comparison with most evolutionary changes. Usually, we may assume, such a change would be gradual, but it might in some cases be sudden and discontinuous. This latter condition would seem to be likely when the eggs of some particular species stand forth conspicuously as wholly different from those of all nearly related forms (e. g., *Cistothorus stellaris*).

Great similarity between the eggs of birds distantly related is far less common than dissimilarity among forms that are closely allied. Birds as unlike as parrots and petrels may lay eggs which appear indistinguishable, but this is due to lack of color in each case. In fact, unless eggs are white or, at most, plain colored, family distinctions usually prevail, and this holds generally even in the *Oscines* where natural lines are faintly drawn. Of course this does not imply that the eggs of each family necessarily show any great similarity but rather that eggs selected from different families are usually sufficiently unlike to prevent confusion. Nevertheless, of the fifty (more or less) oscinine families the two which, I presume, are the most clearly delimited are the *Alaudidae* and *Hirundinidae* and it happens that in each of these groups the eggs, as a whole, are very closely allied. Larks' eggs, while difficult to describe, conform to a type which is quite distinguishable, while all swallows' eggs seem to be white, some more or less flecked with brown. Further investigation of the varous swallows' eggs illustrates one principle in oology which is fairly constant, namely, that eggs hidden in holes are apt to be white, or nearly so; *R. riparia, I. bicolor, T. thalassina* and *S. serripennis* are all hole-breeders. It is generally assumed that coloration is primarily a protective feature, and that it is lost, as useless, where eggs are completely hidden from view. Unfortunately there are also plenty of white eggs laid in *open* places: the eggs of both *Asio accipitrinus* and *S. cunicularia* are white just because they are *owls'* eggs, in all probability, irrespective of the fact that one bird exposes its eggs *on* the ground while the other burrows *beneath* it. At all events, the production and deposition of egg coloring matter must correspond to certain definite physiological, chemical and, perhaps, anatomical characteristics in one or both parents, and the fact that these causes may be apparently slight and inconsequential should not discourage our attempts to ascertain them; it is far easier to say they are "accidental", but more logical to assume that they follow some law if we can but find it. On the other hand, many efforts have been made to explain such coloration by the application of general principles affecting organic evolution as a whole, but the results of such broad speculations can hardly be expected to answer such minute requirements. In any event they are beyond the purview of this paper, but to the oologist who is sufficiently interested I would commend a perusal of Dixon's chapter on "Nidification" in Seebohm's delightful "British Birds".

So much for this line of study, which the "comparative oologist" may amplify indefinitely. But other investigations lie invitingly at hand. Consider how little we know of the many unusual types of coloration which occasionally occur, departures from the mean which are sufficiently marked to be noteworthy and yet which do not fall within the category of "abnormalities", the latter offering a special field of its own which Jacobs at one time cultivated most successfully. In Europe collectors are particularly keen in the pursuit of "varieties", as these rarer types are called, and specimens have

fancy values accordingly. For instance, out of several hundred osprey eggs which have passed through my hands I have two sets in which the markings are all purple, and I recently received a set of Swamp Sparrow's eggs which the collector aptly termed "Pooecetes-like". Many (possibly all) species of *Corvus* occasionally lay eggs in which the customary green is replaced by red, though such instances are exceedingly rare. In just one species, as far as I am aware, this is the normal type and I have several sets of *Corvus capensis* from South Africa which closely resemble these peculiar eggs of our raven.

We have all run across nests which obviously contained eggs produced by more than one female; how often and among what species are such instances likely to occur? I do not think there is much data available, but special attention to this point would doubtless bring forth much hidden information. Many years ago I became sufficiently interested in this subject to record a few cases and, quite incidentally, coin a new word—co-nidification—which barely escaped immortalization in the Century Dictionary![*]

As I have already stated, the extension of a collection beyond the safe limits of the A. O. U. List is a difficult, expensive and altogether serious undertaking. It requires infinite time and patience to build up an exchange list, and for some entire regions this is quite impracticable. In Europe, the customs differ markedly from ours, data consists customarily of date and locality only and as dealers handle a very large percentage of the eggs it is a heartbreaking business to obtain really desirable material from the *original* sources. In South Africa and South America collectors are few and far between and oology has received scant attention in most localities. Australians, on the contrary, have every reason to be proud of their work along these lines. There are many active field oologists whose specimens and data compare favorably with our very best, and my personal acquaintance and extensive correspondence with them has been a real pleasure in every way. Of Indian oologists I know little and my collection is as yet practically barren in this rich field despite strenuous efforts at cultivation for several years. But in spite of the drawbacks, I must confess that the collector who once takes the plunge and becomes awake to the possibilities of exotic material is not likely to give up for lack of interest.

Thus, it is particularly fascinating if one is looking at oology from the comparative point of view, to fill the gaps which occur in most of our native groups. There are few families or even genera which are strictly North American and it is surprising to find what of the novel types fit in among our own familiar species. The following examples, which might be extended indefinitely, may serve to illustrate this point. The plain, light blue eggs of our own bluebirds (*Sialia*) form an interesting series, but the real home of their allies, the chats (*Saxicolinae*), is in the Palearctic region and eggs of the many species found there present an endless variety, most of the specimens being more or less spotted. Again, in looking over our cabinets we may observe between the true thrushes and the wheatears one or more sets of small, dark eggs which seem strangely isolated and out of place; for North America we have only one representative (*Cyanecula*) of the large and interesting sub-family (*Ruticillinae*) which includes not only the nightingales but also the real robins and redstarts after which our birds were long ago misnamed. Many of these eggs are particularly beautiful and among the various species there is great diver-

[*]The late Professor Coues was then at work on the zoological section; having heard of the word he asked for the original reference—the old O. & O., I think—but I inadvertently neglected to inform him.

sity, from delicate pinks and blues to dark olive-browns. Among the *Turdinae* we find that eggs of the twenty or more North American forms all have as ground color some shade of green or blue, but this is not common to all the true thrushes; in *T. viscivorus* it varies greatly from gray or greenish gray to reddish-brown; eggs of *M. olivacea* from South Africa are similar while in one species only (*Oreocichla mollissima*) it is white.

Doubtless most of the facts and speculations set forth above are familiar to readers of THE CONDOR and, having little claim to originality, my only excuse in presenting them is an earnest belief that the time has come in this country when the study of egg collections as a whole should receive more attention and, particularly, that our collections should be so built up and expanded as to guarantee the most fruitful results.

U. S. S. Washington, Puerto Plata, Santo Domingo, May 20, 1914.

PECULIAR DEATH OF CALIFORNIA BUSH-TIT

By G. WILLETT

WITH ONE PHOTO BY ANTONIN JAY

ON March 28, 1914, accompanied by Mr. Edward Ricketts of the California Fish and Game Commission, I was walking through a grove of scrub oak trees near Live Oak, Sutter County, California, when, about eight

Fig. 49. NEST OF THE CALIFORNIA BUSH-TIT; REMAINS OF ONE OF THE BUILDERS APPEARS AT LEFT OF ENTRANCE, WHERE IT HAD PROBABLY BECOME ENTANGLED IN THE WOOL CHIEFLY COMPOSING THE NEST.

feet up in a young live-oak near the bank of a small stream, I noticed a nest of the California Bush-Tit (*Psaltriparus minimus californicus*). I was at once struck by the fact that the nest was an unusually handsome one even for this bird, which is well known for the artistic construction of its home. On approaching closer I saw that the nest, which was compactly and uniformly built, was well coated on the outside with white wool, probably gathered from nearby bushes where sheep had been grazing.

This beautiful and, to the writer, unusual covering of the nest was quite sufficient to invite still closer examination, and the most unusual feature was yet to be discovered. On drawing down the supporting branches to facilitate closer inspection, I was surprised to observe the tail and wing-tips of a bush-tit projecting from the side of the nest a couple of inches to the left of the entrance. Upon investigation I found that one of the little nest builders, for some reason which seems difficult to explain, had apparently attempted to tunnel through the side of the nest and, becoming entangled in the net-like structure to such extent that it could not free itself, had perished. The bird was thoroughly dried when found, so the nest was brought in and photographed (see fig. 49). The tail and wings of the dead bird will be seen projecting from the nest a little to the left of the entrance.

The nest contained five eggs, three of which were broken. They had apparently been deposited at least two weeks previously, which would indicate a rather early nesting date for the species.

Los Angeles, California, May 6, 1914.

ON THE OOLOGY OF THE NORTH AMERICAN PYGOPODES

By DR. R. W. SHUFELDT

WITH FIVE PHOTOS BY THE AUTHOR

TAKEN collectively, the loons and grebes form a natural Supersuborder of birds, created to contain the Suborder *Pygopodes,* which latter is represented by two families, namely the *Colymbidae* or Grebes, and the *Gaviidae* or Loons.

In my paper on "An Arrangement of the Families and Higher Groups of Birds," which appeared some time ago in *The American Naturalist* (vol. XXXVIII, nos. 455-456, Nov.-Dec., 1904), the loon family bore the name of *Urinatoridae,* which, be it known, is co-equal with the family here called *Gaviidae;* while the grebes, formerly called the *Podicipidae,* are, as an assemblage, now known as the *Colymbidae.* This constant changing of names, though doubtless necessary, is very inconvenient and confusing for the ornithologists of the present day; and every one will surely rejoice when avian nomenclature eventually becomes *fixed.*

For years the common loon was known as *Colymbus torquatus;* and now *Colymbus,* in modern American ornithological works, is only applied to the grebes, while the loons are all relegated to the genus *Gavia.* Why the last-named, as a family (*Gaviidae*), should, in a Suborder (*Cepphi*), be arrayed with the auks (*Alcidae*), as is the case in the classification adopted in the last edition of "The A. O. U. Check-List of North American Birds," is, to me, quite incomprehensible. Morphologically, a grebe and a loon are very much alike; while a loon is, structurally, quite a different bird from any species of auk known to me.

In the present article I am to present some notes I have made and illustrated with photographs of the eggs of our grebes and loons, much as was done in another contribution of mine, which appeared in a former issue of THE CONDOR[1], devoted to the eggs of the North American limicoline birds.

1. SHUFELDT, R. W. An Introduction to the Study of the Eggs of the North American Limicolae. THE CONDOR, vol. XV, no. 4, July-August, 1913, pp. 138-151; illustrated by 54 reproductions of photos of eggs of the shore-birds.

For the material used in the present connection I am again indebted to Mr. E. J. Court of Washington, D. C., from whose fine collection of eggs most of it has been selected, and also to the United States National Museum for the loan of three exceptionally beautiful eggs of our Common Loon (*Gavia immer*), here figured in nos. 11-13. All the photographs of the eggs illustrating the present article are reproductions of those made by myself, direct from the specimens shown, and all are natural size on my negatives.

It will not be necessary to list here the grebes and loons known to occur in our avifauna, for they are familiar to ornithologists everywhere. The eggs of all of them have been examined and compared by me during the preparation of the present paper, with the exception of the eggs of the Yellow-billed Loon (*Gavia adamsi*), no specimens of the eggs of which are to be found in either of the above referred to collections; I shall refer to this matter again farther on in this article.

Throughout the early literature of the grebes in this country, there exists no little confusion in regard to the American species, a statement that may, in most instances, be extended to include the descriptions of their nests and eggs. They are better known now, and the first form here to be noticed is the Western Grebe, the *Podiceps occidentalis* of Lawrence and the *Æchmophorus occidentalis* of the A. O. U. *Check-List*. It has a wide range through western North America, occurring as far south as central Mexico.

No descriptions of grebes are found in Wilson's "American Ornithology", though five species of them are listed at the end of the "Brewer's Edition" of that work.

Audubon's accounts of our grebes are scanty and of but little value. The most elaborate one is devoted to the Crested Grebe (*"Podiceps cristatus"*), a bird not found in North America, but which he claims to have met with in numbers over the greater part of the United States in his time. Ridgway says of this bird in his *Manual*: "Nearly cosmopolitan, but no authentic record for any portion of America" (p. 5).

To return to *Æ. occidentalis*, the last-mentioned writer does not describe its eggs in the work named, simply stating: "Eggs 2-5, 2.40 x 1.54." Not a word as to their form or color.

With respect to this, Coues gives a general description of the eggs of the North American grebes, intended to cover those of all our species, thus: "The eggs are more numerous than in other pygopodous birds, frequently numbering 6-8; elliptical, of a pale or whitish unvariegated color, and commonly covered with chalky substance."[2] He says, in the case of *Æ. occidentalis*, that they are "usually 3-5 in number, measuring 2.40x1.55."

Of this species Reed says: "They lay from three to five eggs, the ground color of which is a pale blue; this color is, however, always concealed by a thin chalky deposit, and this latter is frequently stained to a dirty white. Size 2.40 by 1.55."[3]

Of the seven or eight eggs of the Western Grebe before me, I find the average measurement to be almost exactly 2.40x1.55, though this varies some-

2. COUES, E. Key to North American Birds, vol. II, fifth edition, p. 1053. He gives a separate description for the eggs of *Colymbus auritus*, and states that those of *C. n. californicus* cannot be distinguished from them (p. 1058).

3. REED, CHESTER A. North American Birds Eggs. New York, 1904, p. 1. A good figure of the egg of *Æchmophorus* is given; and, as a matter of fact, this excellent book is beautifully illustrated all the way through with reproductions of photographs of the vast majority of the eggs of United States birds and many of their nests, etc.

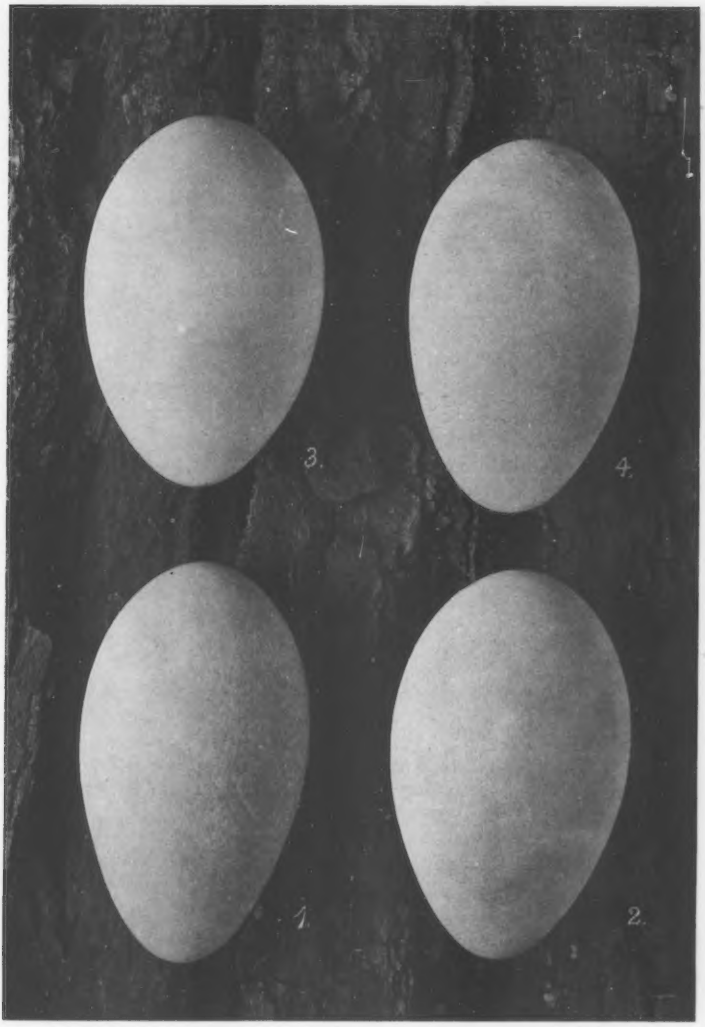

Fig. 50. NOS. 1 AND 2, EGGS OF THE WESTERN GREBE (*Aechmophorus occidentalis*); NOS. 3 AND 4, EGGS OF THE HOLBOELL GREBE (*Colymbus holboelli*); ALL NATURAL SIZE.

what for individual eggs, as does also the form in different specimens. As to the white, chalky deposit, it by no means always obscures the pale blue ground color of the egg, for in some the layer is extremely thin, while in others it may have been more generously applied or deposited on the surface, sometimes even in heavy circumscribed blotches (see no. 2).

Two eggs of this grebe are given in figure 50 with this article (nos. 1 and 2); they are from the Court collection, and were taken by A. O. Treganza at Utah Lake, Utah, on the 29th of May, 1904 (set mark 29-4). Mr. Treganza, who resides at Salt Lake City, describes the nest as being a "platform of reeds, partly floating, partly resting on broken-down reeds; nest proper composed of decayed reeds. Water three to six feet deep."

The colony of grebes, where these eggs were collected, was located about two miles from the shore, and contained about one hundred nests. Some of the clutches were in advanced incubation. Eggs from the other nests are before me, but their characters are the same as those already given for the specimens shown in the figures.

Passing to *Colymbus holboelli,* a grebe of which I have several eggs at hand belonging to the Court collection, it is to be noted that they very closely resemble those of the Western Grebe just described (fig. 50, nos. 3 and 4). They are, however, somewhat smaller, a fact noted by Ridgway in his *Manual* ("Eggs 2-5, 2.23x1.37," p. 5.)

Coues on the other hand says, in the last edition of his "Key": "Eggs 2-5, sometimes more, oftener 3 or 4, 2.10-2.35x1.51-1.45, rough, whitish, either inclining to pale greenish or with buffy discoloration, of the narrow-elongate shape usual in this family" (p. 1056). That they are not always of the "elongate shape," will be appreciated by comparing nos. 1 and 3 of this paper. The "buffy discoloration" is to be attributed to stains due to coming in contact with the decaying vegetation composing the nest. Mr. William B. Arnold collected the eggs of the Holboell Grebe shown in nos. 3 and 4 of fig. 50 (Manitoba, Canada, June 15, 1910).

Reed, in his above cited book, says of the eggs of the Holboell grebe: "They lay from three to six eggs of a dingy white color which have the stained surface common to Grebes' eggs, size 2.35x1.25." Those shown in nos. 3 and 4 of the present article are somewhat larger than this, though very slightly so. There is considerable chalky deposit on no. 4, while no. 3 has hardly any, and is of a very pale greenish shade.

I have not illustrated the egg of the Horned Grebe (*Colymbus auritus*), but a specimen of it is shown in Reed's "North American Birds' Eggs" (p. 2), and he says in regard to this species: "They build a typical Grebe's nest, a floating mass of decayed matter which stains the naturally white eggs to a dirty brown. The number of eggs varies from three to seven. Size 1.70x1.15."

To represent *Colymbus nigricollis,* I have selected eggs of the Eared Grebe (*C. n. californicus*), and two of these are shown in fig. 51, nos. 7 and 8. They are typical for this species, and I have several of them at hand from Mr. Court's collection. Mr. A. M. Ingersoll took them at Lake San Jacinto, Riverside County, California, on the 8th of June, 1897. At the time they were collected there were many nests there with eggs of this bird in sight. The floating nests were attached to growing grass in about fifteen inches of water (set mark 2021, no. 4).

Coues says of the eggs of this grebe that they are "not distinguishable from those of *C. auritus*" (p. 1058); while Reed (*loc.*

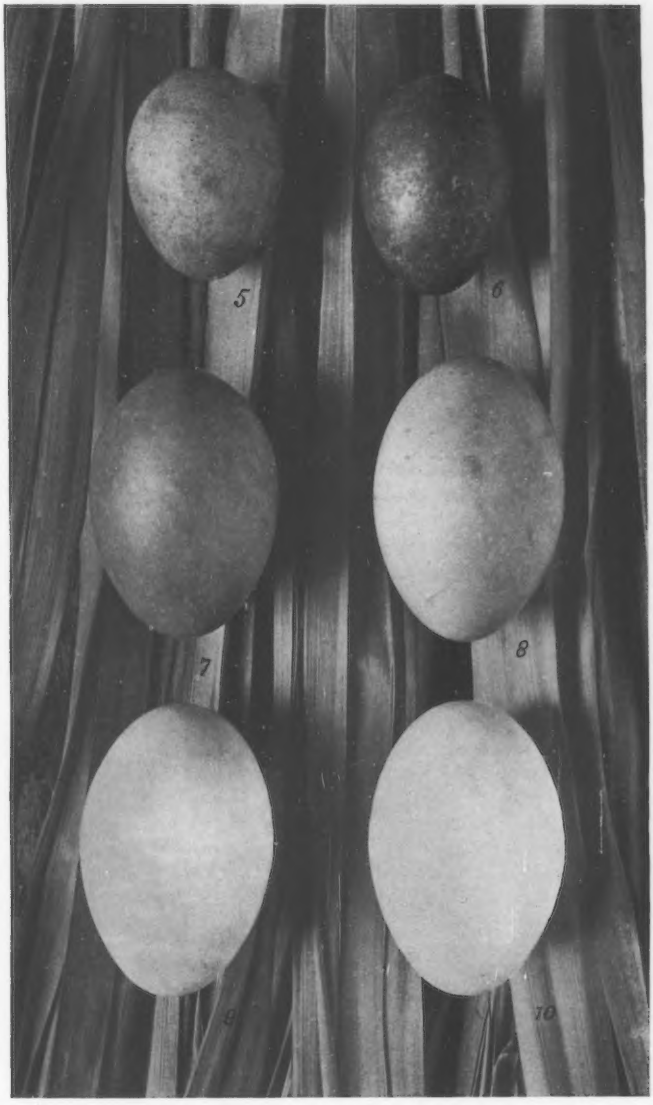

Fig. 51. NOS. 5 AND 6, EGGS OF MEXICAN GREBE (*Colymbus d. brachypterus*); NOS. 7 AND 8, EARED GREBE (*C. n. californicus*); NOS. 9 AND 10, PIED-BILLED GREBE (*Podilymbus podiceps*); ALL NATURAL SIZE.

cit.) says that the eggs of *C. n. californicus* are "bluish white, with the usual chalky and discolored appearance," and he gives the size as 1.75x1.20. Ridgway does not describe them, simply stating "Eggs 4-8, 1.75x1.10."

Audubon had but confused ideas about our smaller grebes and their eggs, so it is quite useless to cite him as an authority on these interesting birds.

Nos. 7 and 8 here figured are of a pale clay color, no. 7 being three or four shades darker than no. 8. Possibly they may be stained in the usual way; but they do not appear to have any chalky deposit upon them, and they vary somewhat in shape. No. 7 measures 1.61x1.24, and no. 8 1.75x1.19, while other eggs of this subspecies at hand average somewhat smaller in size.

Eggs of the Mexican Grebe (*Colymbus dominicus brachypterus*), here shown in fig. 51, nos. 5 and 6, are often of an earth brown color and blotched; others are lighter, but still exhibit the same blotched or marbled appearance on a light clay ground. As usual, they vary in form and size. No. 5 measures 1.40x1.00. Reed gives the average size as 1.40x.95, and there is a specimen in Court's collection which is exactly of that size.

Frank B. Armstrong of Brownsville, Texas, collected nos. 5 and 6, and others also at hand (May 26, 1906). It was near his home, and a large colony of the birds were associated together. Their nests were composed of decayed grass and weeds. The eggs described by Reed (*loc. cit.*, p. 3) were taken by the same inveterate collector on the same date as above, and Reed gives the color as "deep buff or rich brown," which is correct. Clutch 3-5.

Coues did not describe the eggs of this subspecies; but of the extralimital grebe, *Colymbus dominicus*, he says: "eggs usually 7, 1.35x0.95," without giving either their color or form (*loc. cit.*, p. 1058).

Our Pied-billed Grebe or Dabchick (*Podilymbus podiceps*), the eggs of which are here shown in fig. 51, nos. 9 and 10, breeds in various regions throughout North and South America, being very rare in some localities; its eggs have been very differently described by various writers on ornithology.

Audubon apparently never discovered but one nest of this bird—or what he supposed to be this bird—and it contained five eggs. He describes them as measuring "an inch and a quarter, by seven and a half-eights," and they were "smooth, rather rounded, and of a light greenish-white colour." With respect to the color, he was about right; but I have never seen a "rather rounded" *grebe's* egg, and his measurements are certainly away off.

Coues says not a word about their color or form, stating simply: "Eggs 4-6 or more, 1.70x0.95" (*loc. cit.*, p. 1059).

Reed gives their color as "deep buff"; the clutch 5-9, and the size as 1.70x 1.18 (*loc. cit.*, p. 5). There are four of these eggs before me, taken from a set of five (set mark 9-5). They were collected by Dan Spencer in Iowa ("Town Cr. Bluff") on the 13th day of June, 1895. "Nest of mud and rushes floating in water." (See fig. 51, nos. 9 and 10.) I find these eggs to be of a pale greenish-white, with little or no chalky deposit upon them whatever. As usual, they vary somewhat in form and size, measuring upon the average 1.70x1.19, individual specimens being either a little larger or somewhat smaller than this, and some being rather more elongate than others.

There can be no question in regard to the morphological similarity between the loons of the genus *Gavia* and the grebes; and, structurally, a loon is much nearer *Colymbus* than it is to any auk (*Alca*, etc.). With respect to the eggs laid by the representatives of the genus *Gavia*, however, they are all very

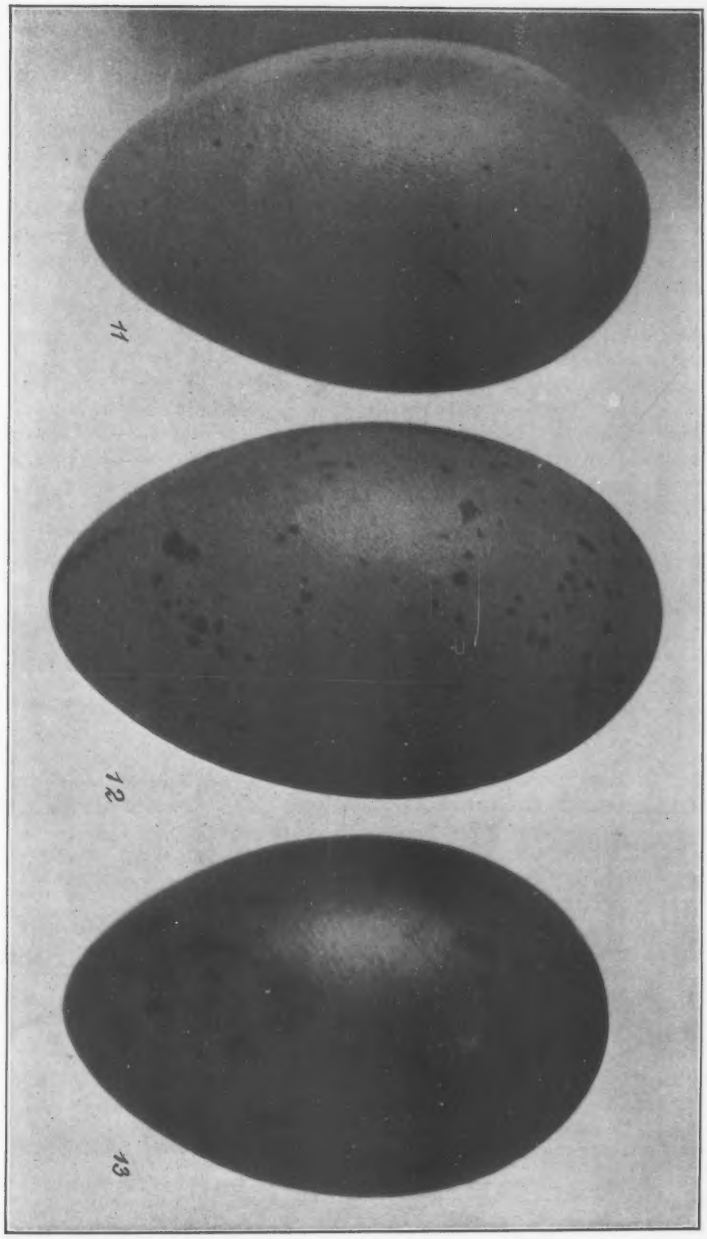

Fig. 52. Eggs of the Common Loon (*Gavia immer*), coll. U. S. National Museum; all natural size.

different from any of those laid by the grebes, in so far as I have studied them.

Loon's eggs never show any chalky deposit upon them, the shells being more or less glossy and rather thick. In color, they range all the way from a clear drab to a deep vandyke-brown. They may be finely speckled all over with a black-brown, never thickly, or, what is more commonly the case, the spots are large and irregular, in some specimens amounting to heavy blotches. They are extremely difficult objects to photograph, owing to the glossy shells and the markings and ground color both being shades of brown, thus rendering it difficult to bring out the spots. The series of figures of loons' eggs in Reed's book, cited above, are excellent exemplifications of the difficulties in question. Some of the markings in those figures, as fine as they are in some respects, have evidently been touchd up with a brush prior to reproduction from the photographs.

In figure 52 (nos. 11, 12 and 13) I present three illustrations of Common Loon's eggs (*Gavia immer*), kindly selected for me from the elegant collection of the U. S. National Museum by Dr. Charles W. Richmond of the Division of Birds of that Institution. They were photographed by me, natural size, and they well represent the extreme of ground color and markings as well as range.

No. 11 was taken in the Adirondack region, New York, and the collector is not known to me (coll. U. S. National Museum, no. 28300). This is the most remarkable loon's egg I have ever seen; it is of a rich olive-drab color, very sparsely flecked with very fine brown specks; it measures 3.51x2.25.

The beautiful specimen shown in no. 12 is considerably larger (coll. U. S. National Museum, no. 17977), as it measures 3.80x2.31; it is elegantly spotted with scattered spots of different sizes of a uniform blackish-brown as shown in no. 12. This egg was collected by George A. Boardman at St. Stevens, New Brunswick; it is a very different looking egg from the one shown in no. 13 of the same figure, which not only is of a much deeper brown, but the blackish-brown markings are, in many instances, much larger, while the egg itself is much smaller, being but 3.48x2.23 (coll. U. S. Nat. Mus., no. 24038, nat. size). This specimen was collected near New Cumberland House, Canada, by Mr. R. McFarlane.

In the coloring of these eggs of *G. immer,* there is a subtle shade of olive present, and this will account for Reed saying that the ground color of Loon's eggs is of a "dark greenish brown" (*loc. cit.*, p. 7). This writer gives, in the book cited, fine, natural-size illustrations of the eggs of *G. immer, G. adamsi, G. arctica, G. pacifica* and *G. stellata,* in fact, all of the species occurring in the avifauna of this country.

I have, in the present paper, figured only those of the Black-throated Loon (*G. arctica*), and the Red-throated species (*G. stellata*), for the reason that, in as much as all the eggs of the different species of our loons so closely resemble each other, I thought it more important to invite attention to variations in form, color and markings in the eggs of one or two species selected from series. This has been successfully accomplished in figures 53 and 54 (nos. 14-19), where the examples shown are all of natural size.

Almost without exception, the loon lays two eggs to the clutch and the markings in the case of *Gavia immer* are never, in so far as I have examined them, most numerous at the larger end. Audubon, in his account of the "Great Northern Diver" (Common Loon), says: "Of the many nests which I have examined, I have found more containing three than two eggs, and I am confi-

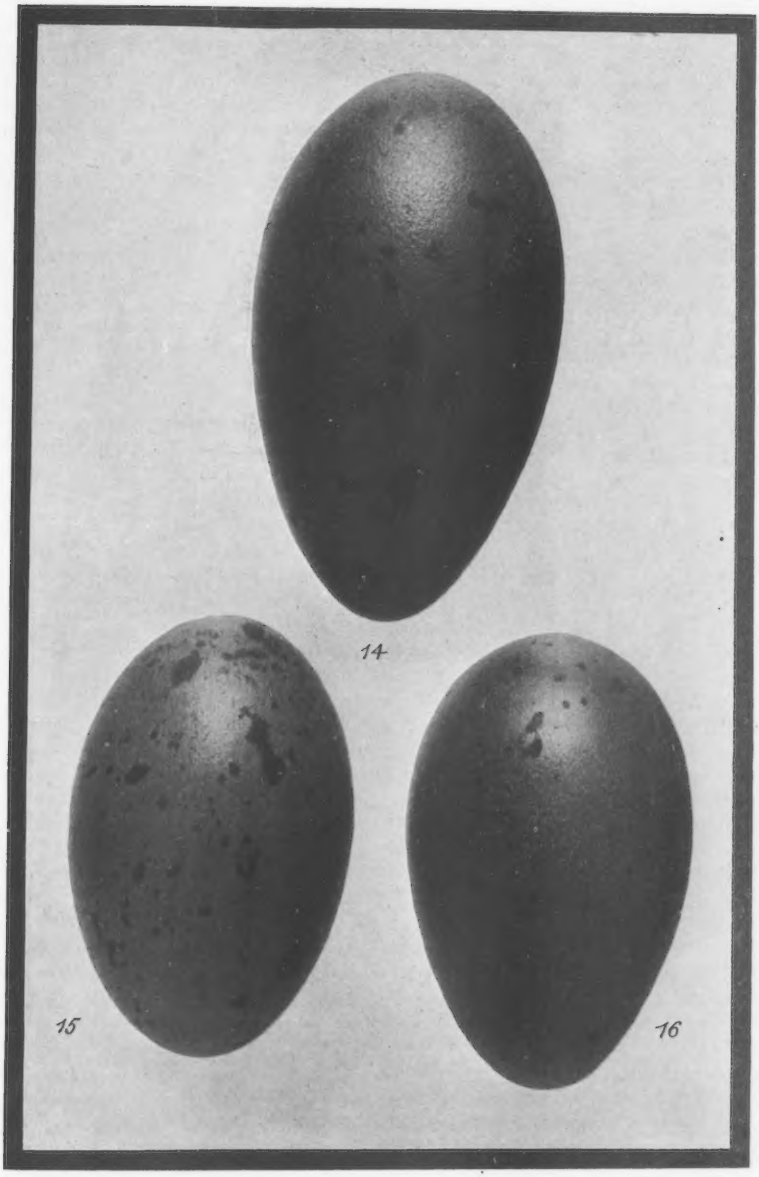

Fig. 53. No. 14, egg of the Black-throated Loon (*Gavia arctica*); nos. 15 and 16, the Red-throated Loon (*Gavia stellata*); all natural size.

dent that the former number is that which more frequently occurs, although many European, and some American writers, who probably never saw the nest of this bird, allege the contrary. The eggs average three inches and three-quarters in length, by two inches and a quarter in their greatest breadth, and thus are considerably elongated, being particularly narrowed from the bulge to the smaller end, which is rather pointed. They are of a dull greenish-ochry tint, rather indistinctly marked with spots of dark umber, which are more numerous toward the larger extremity" (vol. VIII, p. 168). This description would be excellent were it not for the fact that he has the usual number to the clutch wrong, the average size wrong, and the form, color and markings all wrong; otherwise it is pretty good.

Coues says for this bird: "Eggs usually 2, 3.50x2.25, elongated and pointed, dull greenish-drab, with dark brown and blackish spots" (*loc. cit.*, pp. 1049-1050). This description might apply to some few eggs of *Gavia immer*, but by no means to them all. It is a dangerous practice to publish blanket descriptions of birds' eggs, as it is with respect to much else constituting biological materal.

Reed says of the eggs of the Loon: "The two eggs which they lay are a very dark greenish brown in color, with black spots. Size 3.50x2.25" (p. 7). How about no. 11 of figure 52 of the present article?

The same author says of the eggs of *Gavia adamsi* that it lays two eggs "size 3.60x2.25," and that in the case of this species "their nesting habits and eggs are precisely like the preceding (*G. immer*), except that the latter average a little larger," in all of which he is very probably correct. Of *G. pacifica* he also says "they lay two eggs of a greenish brown or greenish gray hue with black spots. Size 3.10x1.90" (*loc. cit.*, pp. 9 and 10).

The eggs here shown in fig. 53 are from Mr. Court's collection and came to me accompanied by the following data: No. 14, *Gavia arctica*. Collector (?); Fornea, Lapland, 14 June, 1909. Set 2. Set mark 20. This egg measures 3.18x2.00.

No. 15. *Gavia stellata*, Oefusa, Iceland, 12 June, 1910 (35.49.2). I find the specimen to measure 2.80x1.80, which is somewhat above the average size for this species.

No. 16. *Gavia stellata*, Oefusa, Iceland, 2 June, 1910 (38.34.2), a specimen which I find to measure 2.80x1.80. All three of these are of a deep greenish olive ground, deepest in no. 14, lightest in no. 15, with blackish brown spots distributed as shown in figures. There is no disposition for these spots to especially congregate at the larger end in the case of any of these eggs, this being but slightly evident in nos. 15 and 16, but not at all so in the case of no. 14.

Coues does not refer to either the color or the markings of the eggs of *Gavia stellata;* he simply says: "Eggs 2-3, 3.00x1.75." As to the ground color, I may say that there is a great similarity with respect to it among all species of loons of the genus *Gavia*.

Variations in *size* and *form*, as found in the case of loons' eggs, is well shown for the Red-throated Loon (*G. stellata*) in fig. 54 (nos. 17-19). These interesting examples are also from Mr. Court's collection and bear the following data: No. 17, Oefusa, Iceland, 12 June, 1910 (38. 92. 2), an unusual form of egg, which I find to measure 3.02x1.74.

No. 18 was collected by A. W. Johnson on the 20th of May, 1874, at Orfiord, North Iceland. There were two in the clutch, and I find it to measure 3.00x1.81.

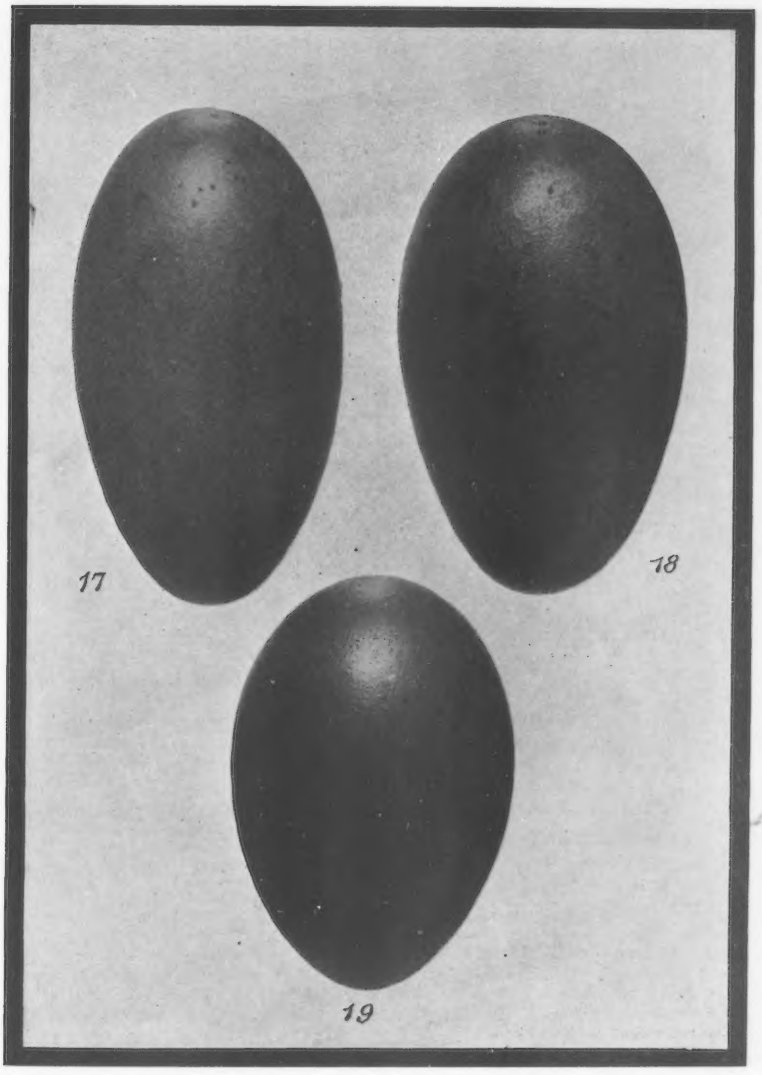

Fig. 54. EGGS OF RED-THROATED LOON (*Gavia stellata*), NATURAL SIZE, SHOWING VARIATIONS IN SIZE AND FORM.

No. 19. Collected by Paul Thorasimsson, on the 15th of June, 1905, at Lake My Vatn, North Iceland (set c 1-2), measures, according to my measurements, 2.60x1.80.

Nos. 18 and 19 are both very dark eggs, while no. 17 is lighter. In the case of no. 19 most of the spots are very fine, even minute, with only a few larger ones. In no. 18 they are larger and blacker, those at the greater end being, in fact, great blotches and mostly confluent.

In the egg belonging to the same clutch with no. 18, there is a blotch near the butt which measures 20 millimeters by 10 millimeters, or nearly the size of one's thumb-nail. One still nearer the butt is nearly as large; but such markings in the eggs of loons are exceptional, and in any case appear to be formed by several smaller blotches, overlaid by somewhat thinner and very slightly lighter ones.

Loons' eggs are very different from any of those of the *Alcidae* or auks; indeed, in the case of some of the latter, the eggs are pure white, and present no markings of any kind whatever. Moreover, some of the puffins and other species lay but a single egg, although other auks lay two, and, as we know, so do the humming-birds.

These facts are alluded to simply to illustrate the point that the *number* of eggs laid by a bird of one well-defined group, selected as a single characteristic, is by no means a safe one to go by in taxonomy, in the matter of arraying that bird, or family of birds, with another group, simply for the reason that some of the latter assemblage may chance to do the same thing.

Still, in avian classification, the characters presented on the part of eggs always mean something, and such data is often of use in this connection; but it should never be employed as a single factor more than to be additional evidence, with respect to affinities, when associated with what is presented on the part of structure, habits and distribution.

As yet we have not the knowledge which will admit of correctly stating why it is that all loons lay two dark-colored, spotted eggs; but there is a reason for their so doing. And were we able to trace the matter back far enough into the past, that reason could be brought to light. For instance, could we but know what kind of an egg *Hesperornis* and its descendants laid, it would greatly help out.

Washington, D. C., October 13, 1913.

FROM FIELD AND STUDY

A Plea for More Lasting Field Notes.—What happens finally to all the ornithological field notes that are made? A few of them are left to state and local institutions and societies, some to close personal friends of the deceased, and by far the greater majority I imagine, are put away with odds and ends in an old trunk until a house-cleaning by some member of the next generation puts them in the ash barrel. Again, how many of these notes are put and kept in concise, connected and decipherable form so that they may some day be of use to others?

From what I have myself seen I feel safe in venturing the statement that a good percentage of the average men who are interested in birds, other than those connected with some museum or other institution, will find that their old notes are scattered through notebooks of different sizes, and some of them, at least, stored with other old papers where they may be forgotten and at best hard to get at.

Notes that are worth taking at all are worth keeping in orderly condition and

passing along so that they may be of use to others. There are numberless ways of keeping field records systematically, and most of us have our own little pet notions about the one best way for this. What seems to be most desirable is to keep each species separate in card index form, making the different entries under their proper heads as soon as one returns from a trip. This in a way is a little cumbersome and has other drawbacks. Probably most of us in referring to our notes wish to refresh our memories in regard to the birds of some one section rather than general notes relating to a particular species. On the other hand, those who make nearly all their observations in one section would, I think, find the card index system of species most desirable.

I do not pose as an authority on the best method of note-keeping; I only know what system best suits my individual needs. While in the field and the majority of our birds are wrapped up, it is often hard to tell just what subspecies we take from day to day,—for instance, whether we have a Pileolated or a Golden Pileolated Warbler on a certain day, and there are often other things in our notes that need correcting. As soon as I return from a trip I sort out and identify the doubtful subspecies, make a note of the latter, and copy my notes. Those whose chirography is more legible than mine can trust to their pen, but I typewrite mine on a good quality of paper with the best and most lasting ink-ribbon obtainable, fasten the sheets together with paper clips, put the notes of each trip in a labelled manila folder and file the folders away in a fiber case. Some may object to this method, but the main and only thing is to have your notes in a lasting and legible form, and to follow some simple standardized system.

After the advisability of keeping notes for your own reference, is to see that after you are gone, they shall be put where they will be of the greatest help to others. Don't leave them knocking around to be thrown out with your old worthless papers, and don't leave them to your best friend. I would give a good deal if a certain ornithologist whose memory we all revere had put his notes where they could now be located,—notes that are a good deal more valuable than most of *us* have ever made; so, for the cause of science and the help of those younger ones who will be left when you are gone, instruct the members of your family to send your notes to some safe and sound institution where they will be in safe keeping and accessible to those who wish to use them. In order that these would not be too scattered, why not, all you western ornithologists, leave your notes to the Cooper Club? Mr. Grinnell, at the Museum of Vertebrate Zoology, Berkeley, or Mr. Chambers, at Eagle Rock, where most of the Club property is housed, are well situated to take care of these field notes, and could loan parts of them to members in good standing who might be engaged in special work. In time, this would grow to be quite a feature of the Club, and a very valuable one at that.—A. BRAZIER HOWELL, *Covina, California.*

Notes from Vicinity of Claremont, California.—In looking over the "From Field and Study" department in last CONDOR, I noticed Mr. Pierce's note on *Phainopepla nitens*. Although it is a well known fact that Phainopeplas winter here in small numbers, I thought it might be of interest to record that they were especially common the past winter. There was not a day passed that I did not see at least one of these birds and no day when it would not have been possible to find on search a half dozen or more. I have in mind particularly a female that resided all winter in the trees (pepper and sycamore) around the grammar school. It was while hunting on the mesa that I encountered them most often, in bushy country.

In connection with this I should like to mention the scarcity and peculiar actions of the Cedar Waxwings (*Bombycilla cedrorum*). As I was particularly anxious to obtain specimens of these birds I watched for them most carefully all winter. Although a common winter visitant, there were none here during December or January, and it was not until the first part of February I received word of a flock west of town. I searched diligently all the pepper trees in the vicinity for three separate days, but was unrewarded. Nothing was seen of them again until the middle of March when a flock of about five stopped in town for a day or two and then passed on. During April they became common but were nearly all gone by May first. Both Mr. Pierce and I spent our spare time searching in pepper trees just outside of town with no result. Although we naturally associate Waxwings with pepper trees, yet I did not see a single Waxwing in

a pepper tree. All the flocks I saw were in sycamores, eucalyptus, camphor trees and evergreens, on the campus. The fact I wish to call attention to is that they were seen commonly *not* in pepper trees but feeding on the berries of the camphor (*Camphora officinalis*).

I had occasion this spring to witness an act of wanton destruction, committed apparently from jealousy. A Hummingbird (*Calypte anna*) had built a nest in a small tree just outside my window. Within fifty feet was the nest of a Cactus Wren (*Heleodytes brunneicapillus couesi*). The Cactus Wrens paid little or no attention to the hummer's nest until the two eggs were laid and incubated for one week. During the week of incubation both Wrens were observed to be prowling around acting suspiciously, and finally the female (?) was actually seen to approach the nest when the hummingbird was absent, and to smash both eggs, tear the nest down on one side and then depart apparently satisfied.

On March third, while hunting on the mesa I discovered a Gambel Sparrow (*Zonotrichia leucophrys gambeli*) which had been reduced to a terrible plight by a broken wing. The body was terribly bloated, the neck projected outward and was so swollen that the head was pointed downward and inward, and the bird barely able to run. In spite of this the eyes were bright and vivacious. I sent the bird intact to Mr. H. S. Swarth and he replied saying the body had been bloated and practically skinned alive by air entering through a broken humerus.—LEON LLOYD GARDNER, *Dept. of Zoology, Pomona College, Claremont, California.*

Cedar Waxwing Nesting in Humboldt County, California.—On August 3, 1913, my friend, W. W. Moore, came to my home, and told me that a pair of strange birds were getting nesting material in his yard. It was but a short while before I went over there and sure enough there was a pair of Cedar Waxwings (*Bombycilla cedrorum*) one of which was tearing at an old piece of cotton rope, which was tied to a post. After it had enough, both birds flew over a narrow strip of tall alders and down into a gulch heavily covered with young alder, willow and a few myrtle bushes: not a very promising outlook on account of the distance the birds flew before they went over the alders.

The way we found the nest, my friend staid in his yard and I went down into the gulch and when the birds left he would whistle and I would be on watch for their coming so as to get some idea as to where to look for the nest. We had to do this several times before the nest was found, as the birds would go to a different clump of willows each time, and would very soon fly up and go to a patch of myrtles on the bank on the other side of the gulch. The nest when found was about ready for lining, and was left until the 11th of August, when nest and four eggs were taken, incubation indicating a full set.

This is the second set of Waxwing I have taken in this locality, the other having been several years back. I did not keep the date of taking that set.—JOHN M. DAVIS, *Eureka, California.*

Occurrence of the Yellow Rail in Southern California.—On January 31, 1914, while I was hunting near Corona, California, in a swampy meadow covered thickly with marsh grass and a few tules, both the grass and tules ranging in height from two to four feet, my dog flushed a strange small bird. It was shot and proved to be an adult female Yellow Rail, *Coturnicops noveboracensis.*

Several days later Mr. A. van Rossem and myself, after much tramping through this same small meadow, flushed another of these birds, which was collected. It was an adult male. Several times on this trip we heard what we were quite certain were the notes of these birds.

Again, about a month later, we visited this same place and while we did not flush or hear any more of these birds, we found some feathers in a small open pool and were very certain that they were from the breast of the Yellow Rail. Diligent searching through the swamps and grass-covered pastures near the above locality failed to disclose any more signs of these birds.—WRIGHT M. PIERCE, *Claremont, California.*

Nesting of the Allen Hummingbird on Catalina Island.—While on Catalina Island, March 20 of this year, I examined eleven nests of the Allen Hummingbird (*Selasphorus alleni*), as follows:

Two nests with nearly full-grown young. These young were of such size that I feared too close examination of them would cause them to leave the nest. Three nests with eggs: a set of two, incubation advanced; a set of two, fresh; a set of one, advanced. Six unoccupied nests. Of these three were undoubtedly new nests of the year; two looked like old nests of the previous season; and the remaining one was not examined closely enough to determine its condition.

To give an idea of how commonly these birds were nesting I might state that only

about thirty trees were examined for possible nests and that only 55 minutes was spent in the examination of the above nests, a process which involved the carrying about and placing of a very large and cumbersome ladder.—G. K. SNYDER, *Los Angeles, California.*

White-throated Sparrow in Oregon.—On April 27, 1913, I shot a male White-throated Sparrow (*Zonotrichia albicollis*) at Mulino, Clackamas County, Oregon. This is apparently the first record for western Oregon and the second for the state.—ALEX. WALKER, *Mulino, Oregon.*

The Lewis Woodpecker Nesting in Alameda County, California.—On June 12, 1914, I found a nest and pair of Lewis Woodpeckers (*Asyndesmus lewisi*) between Pleasanton and Niles, Alameda County. I was attracted to the nest by the female bird which began calling when I came in sight. She had in her bill what looked like a large black beetle. The male did not come around for about ten minutes, but when he did come, the two did not make much further noise The nest was located in a solitary sycamore tree about forty feet above the ground in a dead limb. This tree was in the creek bottom within a thousand yards of the Grant Gravel Company's plant.—L. P. BOLANDER, *Oakland, California.*

The English Sparrow as Occurring in Northwestern Montana.—I should like to make one addition to my list of birds of northwestern Montana, published in the last CONDOR. Through my habit of omitting the English Sparrow from most of my bird notes, I find that I neglected to mention it in the manuscript. Not wishing to convey the impression that any county in Montana is free from this bird, I hereby supply the proper information, as follows.

Passer domesticus. English Sparrow. Abundant in all towns along the railroads in both Teton and Lewis and Clark counties. Small flocks also occurred in Choteau, Bynum and Augusta before these towns had railroad connections. Railroads have been built to all of these towns very recently (1913), and it is probable that the species will greatly increase in the near future.—ARETAS A. SAUNDERS, *West Haven, Connecticut.*

Eye-color of Juncos: a Correction.—I find the birds I called *Junco phoeonotus dorsalis*, on page 116 of the May CONDOR, are *Junco phoeonotus caniceps.*

We only had the 1910 *Check-List*, and Bailey's *Hand-Book*, with us in the field, and could not decide which subspecies the brown-eyed bird was, eventually deciding on *dorsalis* largely on account of the range as given in the *Check-List.*

Ridgway's *Manual*, however, proves all my birds to be *caniceps*, which he rightly gives full specific rank.—ALLAN BROOKS, *Okanagan Landing, B. C.*

Early Arrival of the Ash-throated Flycatcher in the San Diegan District.—The observation of an Ash-throated Flycatcher (*Myiarchus cinerascens*) in Los Angeles, California, on March 15, 1914, affords what is probably the earliest date of arrival of the species in this region. The bird was seen in a pepper-tree bordering the sidewalk, in the southwestern part of the city, on Normandie, near Santa Barbara Avenue.—H. S. SWARTH, *Museum of History, Science and Art, Los Angeles, California.*

Unusual Abundance of the Glaucous-winged Gull on the Coast of Southern California.—During the winter of 1913-14 the Glaucous-winged Gull (*Larus glaucescens*) was unusualy plentiful along the coast of Los Angeles, Orange and San Diego counties. Although, during ordinary winters, immature birds of the species are rather frequently seen along our coast, adults are usually so far from plentiful as to call for at least a second glance from the bird observer. During the past winter, however, both adults and immatures were abundant at least as far south as San Diego Bay, where I noted many individuals March 13, 1914. On several occasions during the winter months I found the species numerous in San Pedro Bay and along the government breakwater at that place.—G. WILLETT, *Los Angeles, California.*

The Eastern Sea Brant in California.—On January 30, 1914, there was added to the list of the game birds of the state a new species, for on that date there was secured near Bird Island on Arcata Bay, Humboldt County, a specimen of the Eastern Sea Brant, *Branta bernicla glaucogastra.* This goose, an adult male, was shot from a flock of Black Sea Brant (*Branta nigricans*) by West Dean of Eureka. A splendidly made study skin of this bird was prepared by Mr. Franklin J. Smith ,of Eureka; and the owner, Mr. Otto Feudner of Oakland, California, generously donated it to the California Museum of Vertebrate Zoology where it bears the number 24588.—H. C. BRYANT, *University of California, Berkeley, California.*

THE CONDOR

A Magazine of
Western Ornithology

Published Bi-Monthly by the
Cooper Ornithological Club

J. GRINNELL, Editor, Berkeley, California
HARRY S. SWARTH, Associate Editor
J. EUGENE LAW
W. LEE CHAMBERS } Business Managers

Hollywood, California: Published July 25, 1914

SUBSCRIPTION RATES

One Dollar and Fifty Cents per Year in the United States, Canada, Mexico and U.S. Colonies, payable in advance

Thirty Cents the single copy.

One Dollar and Seventy-five Cents per Year in all other countries in the International Postal Union.

COOPER CLUB DUES

Two Dollars per year for members residing in the United States.

Two Dollars and Twenty-five Cents in all other countries.

Claims for missing or imperfect numbers should be made within thirty days of date of issue.

Subscriptions and **Exchanges** should be sent to the Business Manager.

Manuscripts for publication, and **Books** and **Papers for review**, should be sent to the Editor.

Advertising Rates on application.

EDITORIAL NOTES AND NEWS

As the regular meetings of the two Divisions of the Cooper Ornithological Club are, with rare exceptions, held at the same places and at the same time, month after month, it seemed advisable to have a notice in each number of THE CONDOR calling attention to the fact. In this way out-of-town members who do not receive notices of the meetings, if occasionally in a position to attend, will have at hand the necessary information. Accordingly there will be found in this issue and in succeeding numbers, a brief statement of the usual place and time of meetings of the two Divisions, together with instructions as to ways of reaching the places. See page 192.

We wish to call attention to, and emphasize the importance of, *careful* note-taking on the part of all students of natural history. Even the merest beginner in bird study should at once put into operation some adequate and lasting system of recording his field observations. Unfortunately, as pointed out by Mr. A. Brazier Howell in his forceful "Plea", in the present issue of THE CONDOR, there are well-known ornithologists who have been lamentably careless in this duty. In certain instances much of the value of a life-time of gifted effort has been lost to our science because of failure to keep up, in permanent form, a daily record of observations and inferences.

The Oregon Sportsman for June, 1914, under the editorship of Mr. William L. Finley, stigmatizes the common house cat as the "greatest enemy of the birds." We heartily concur in this statement, and take the liberty of quoting the following aphorisms from the same live exponent of conservation. The cat is the arch enemy of all song and game birds. Cats probably destroy more birds than all other animals combined. In one case a "family owned a cat which was well cared for and a particular pet. They watched it through one season and found that it killed fifty-eight birds, including the young in five nests." The boy with the air gun is not in the same class with the cat. Why arrest a man for killing one bird and allow a cat to kill fifty? As a general rule a good cat is a dead cat. *Always kill the stray cat.*

The California Museum of Vertebrate Zoology has been represented in field work this season as follows: Mr. H. C. Bryant, with J. N. Kendall as assistant, put in the month from May 11 to June 11 in exploring the breeding grounds of ducks within the state of California from Merced County to the Oregon line. All sorts of information was gathered, and efforts were made to secure censuses of the various species in given areas. A special paper is in preparation by Bryant summarizing the results of his trip. Mr. Chase Littlejohn spent a like period in similar work in the vicinity of Eagle Lake, Lassen County. With the rapid settling up of the country, it has seemed highly desirable that special efforts be expended in the directions above indicated. The Museum is fortunate in having been provided through private gift with the means enabling it to work along this line. One of the objects in view is the publication of a popular book on the game birds of California, to appear under the authorship of Grinnell and Bryant.

At the Thirty-second Stated Meeting of the American Ornithologists' Union, held in Washington, D. C., April 6 to 9, 1914, the following committees (for the 1915 meeting in California) were appointed. *Auditing*: Joseph Mailliard, Louis A. Fuertes, Walter K. Fisher. *Arrangements*: Joseph Mailliard, Joseph Grinnell, Walter K. Fisher. *Communications*: Walter K. Fisher, Joseph Grinnell, Joseph Mailliard.

Mr. Alfred C. Shelton was appointed in February last, field collector in the department of zoology of the University of Oregon. His duties consist in gathering birds and mammals for a departmental museum and in participating in the biological survey of Oregon now being conducted under the joint auspices of the University of Oregon, the

Oregon Fish and Game Commission, and the United States Department of Agriculture. Mr. Vernon Bailey, of the United States Biological Survey, is directing the field operations.

Mr. Tracy I. Storer, Secretary of the Northern Division, C. O. C., is giving a course on "The Birds of California" during the Summer Session of the University of California, June 22 to August 1, 1914. The course consists of lectures upon the more general phases of the subject, field work with the birds found on the campus, and laboratory study of specimens contained in the University collections.

At the recent meeting of the Pacific Association of Scientific Societies at the University of Washington, Seattle, a small but enthusiastic band of Cooper Club members met and considered matters of interest to ornithologists in the Pacific Northwest. The Club is indebted to Professor George F. Sykes, of the Oregon Agricultural College, for arousing interest and arranging for the meeting.

Mr. George Willett is spending the summer on Forrester Island, southeastern Alaska, where he is acting as warden of the Federal Bird Reservation constituted by that island.

Mr. A. C. Bent toured the western states during the spring and early summer gathering material for his "Life Histories of North American Birds." While in California he made a special point of visiting various bird collections, both public and private, for the purpose of examining specimens of waterbirds showing molt.

Mr. Adriaan van Rossem collected in parts of Kern County, California, during the spring months, in the interests of the Mailliards. Among the specimens sent in is something brand-new in the red-winged blackbird line, announcement of which will shortly be made by Mr. Joseph Mailliard.

Parts of May and June were spent by Mr. Chas. L. Camp in exploring zoologically the eastern section of the Mohave Desert centering at Turtle Mountain. The resulting maps, notes and specimens have been contributed by Mr. Camp to the California Museum of Vertebrate Zoology.

It is a satisfaction to be able to announce in these columns that California is to have a state-wide campaign against the impending referendum, and threatened initiative, which have for their combined object the legalization of the *marketing* of *all* game and fish. Authoritative testimony, among the sources of which is no less an institution than the United States Department of Agriculture, insists that free marketing can only lead to the prompt extermination of our wild game species. The proposed campaign will be under the immediate management of Mr. Walter P. Taylor, whose previous experience in conservation work brings confidence that success will attend his efforts now. A considerable fund has been placed at Mr. Taylor's disposal for the purpose of defraying the cost of the various measures planned to secure publicity. Indeed, such a campaign as this, resolves itself into a matter of *educating the public* as to the facts in the case and correct interpretations therefrom. The campaign will occupy the three full months immediately preceding the November election, and Mr. Taylor's headquarters will be at the California Museum of Vertebrate Zoology, Berkeley.

COMMUNICATIONS

THE CONDOR: A MAGAZINE OF VERTEBRATE NATURAL HISTORY?

Shall the scope of THE CONDOR be extended to cover mammals, reptiles and amphibians, *as well as* birds? An informal vote from Cooper Club members is hereby requested by the undersigned. The proposition will not be presented for formal consideration before the two Divisions of the Club unless a straw vote indicates general consent among all Cooper Club members. The following ideas bearing on the proposition have occurred to the writer.

There is now no one medium for the publication of natural history notes concerning all these vertebrate classes.

Interest in other vertebrate groups than birds would tend to be developed in our specialized bird students, and a knowledge of birds would be brought to the attention of specialists in the other groups. The broadened horizon would be to the advantage of all.

Interrelations, ecologic and economic, between the several vertebrate classes are so close that to secure a general familarity with all assists to a better understanding of any one of them. Many of the problems in bird study will be more efficiently handled upon a basis of knowledge outside the group as well as within it.

THE CONDOR would become of interest to a much wider circle of readers. The circulation would be correspondingly extended.

The increased subscription list would warrant increased size of the magazine, so that eventually there would be added bulk. We would then have a more important and valuable magazine, provided always that an ideal standard of scientific accuracy combined with general interest be striven for.

The total amount of ornithological matter would not be diminished, except as subject to fluctuations resulting from the varying supply of suitable contributions.

As a vehicle of conservation propaganda, THE CONDOR of expanded scope would become more useful than at present, because game

mammals as well as birds are concerned. There would, however, be no more danger of this becoming either a sportsman's magazine or an exponent of sentimentalism than at present.

Purely technical matter would be given second place to life-histories, geographical notes, and field-and-study items, of the same character as those concerning birds alone and now appearing from issue to issue in THE CONDOR.

The auspices under which THE CONDOR is published should remain exactly as they are: the magazine would still be fostered by the Cooper Ornithological Club and would represent the interests of that organization to the highest degree.

Vote by postal card, "yes" or "no", with signature and date. Brief poignant comments are invited. Address before September 1:—J. GRINNELL, *University of California, Berkeley, California.*

DESTRUCTION OF BIRDS AS A RESULT OF VOLCANIC ACTION

[Editorial Note: Reports of the eruptive activity of Mount Lassen naturally arouse our interest as to the possible effects of such phenomena upon the animal life in the vicinity. The following letter indicates vividly how serious such a factor may become. We are indebted to Judge F. W. Henshaw both for calling our attention to this subject and for the privilege of publishing the letter. The authenticity of the account is established beyond doubt.]

Judge F. W. Henshaw,
San Francisco, California;

Dear Sir:

Referring to the conversation I had with you a few days ago, relative to the destruction of game birds in Alaska, resulting from the eruption of Katmai Volcano on June 6, 1912, I am sending you under separate cover the February, 1913, issue of the National Geographic Magazine, which contains a very comprehensive article by Dr. Geo. C. Martin, on the extent of damage caused by this eruption.

Some of the photographs accompanying the magazine article will give you a very vivid idea of the desolation that was caused, and what effect such a deposit as shown in the pictures would have on nesting birds, within the radius of the fall of ashes.

During the period of greatest volcanic activity, from June 6th to June 8th, 1912, birds would frequently drop from the air, and in every case that I witnessed, would be dead when they landed. This shows, I believe, that the gases had a deadly effect on the mature birds while flying. I was at Kodiak during the eruption, distant about 100 miles from the volcano; so if the gases from the crater had such an effect on birds at that distance, it is safe to say that very few birds on the mainland of Alaska, and within the radius of the disturbance, could have escaped.

On June 9, 1912, I had occasion to make the trip by tug boat from Kodiak to Seward. For a distance of about 120 miles at sea, and until we passed beyond the line shown on the map on page 132 of the National Geographic Magazine, as the limit of the one-quarter inch ash deposit, the sea was literally covered with dead birds, of probably every variety known in that section of Alaska. I dare say, that during the entire progress of the trip, for 120 miles, there was not a time when from 15 to 20 dead birds could not be seen from the deck of the steamer. When one realizes that it would be impossible to distinguish these birds over an area exceeding the size of a pin point on the map, he can probably get some conception of the vast multitudes of birds that must have been destroyed.

Again, the eruption occurred during the nesting season, or when the young birds were too immature to fly. Nearly all the bays and indentations of the coast within the area of disturbance, as shown by the map referred to, are headed by large flat tracts of marshy land, with many small lakes and streams. These places are the natural breeding grounds of many varieties of our game birds, and it is safe to say that millions of these birds were on the nests at the time of the eruption. The country surrounding the large lakes, from Clarke Lake south on the Alaska Peninsula, is also a vast breeding ground, and most of this territory was covered by the deposit of ash.

Possibly the scarcity of mallard ducks during the 1912-13 hunting season in California can be attributed to some extent to this eruption. At any rate, this variety seems to be in greater abundance than any other during the nesting season in Alaska, —or that part of Alaska which was within the limits of the disturbance,—so I believe that the eruption must have affected, to some extent at least, the numbers of these birds that migrated south. [See also article above referred to, pages 179-181.—Ed.]

With kind regards, I am,

Very truly yours,

W. J. ERSKINE.

San Francisco, April 7, 1914.

FIELD EXPERIENCES ON THE COAST OF CHILE

Editor THE CONDOR:

On my return from Juan Fernandez Island I received your letter, but regret to say that the package of Condors which you so kindly forwarded could not be located at the Valparaiso postoffice. They would certainly have been appreciated, as United States publications come high down here. Mrs. Beck was nearly speechless when charged fifty cents for a fifteen cent American magazine in Lima, Peru.

Retrieving hummingbirds on Juan Fernandez was like retrieving mountain goats in cliffy canyons of the Rocky Mountains, if the published yarns of such feats be true. One had to lay down his gun and climb down by tree roots, at times holding by one hand so as to secure a hold with the other on the rocky ledge below and search amid ferns and grass for his bird. One beauty, I remember in particular, was shot in the edge of the trail at the top of the mountain where some sixty years ago an English man-of-war's crew erected a tablet in memory of Alexander Selkirk, the well known Robinson Crusoe who spent four years and four months in complete solitude on the island, if the tablet be believed. The bird dropped only thirty feet, but it was necessary to go below and climb up over roots on the face of the cliff, holding on to grass stems or loose rocks that in some places gave way at a touch.

Pigeon collecting there also was different from California styles. One would take a boat and row along the shore, and the pigeons flew by from rocky perches as Baird Cormorants might do in home waters. The Sparrow Hawks, though, acted the same as our home birds; and I even flushed a pair of California Quail one day to my great surprise. The quail had been introduced a few years before and were increasing, so the natives said. The first day on the island, when at the edge of the forest I dropped my hand into the pocket of the sleeveless shooting coat for shells, the odor in the air took me back to the hills of Monterey. How like the sage-brush smell it was; and it *was* the sage-brush smell, carried all the way from Toro Canyon, Monterey County! The coat had not been used since the first day of the quail season the year before, and it had never been emptied of the debris accumulated when followng the elusive birds on brush-covered hillsides. And speaking further of California quail, they were common in the Valparaiso markets both dead and alive, costing about ten cents apiece. I took a snap at a cagefull on the street and heard several calling just back of the town in the canyons.

Changing the subject, you know that skeleton of the giant cuttle-fish (is it?) in the Golden Gate Park Museum? Do not some members of the squid family get about as large? I still remember (can it be thirty years back?) that old geography picture: the two sailors working with all their might chopping at the huge tentacles of a giant cuttle-fish that had grasped their boat while their sailing ship was beating up a mile or more away. Will you please tell me what part of the waters of the globe those monsters inhabit? If I can find out, I intend to give that locality a wide berth in this collecting business. I had thought the squids were night feeders, from the statements of my Monterey Bay fishermen friends; but collecting one day about six miles off Valparaiso, alone as usual, I noticed a bunch of kelp a short distance from me being agitated more than seemed natural by the light wind and sea, so rowed up and it was not kelp, but a school of squid feeding. They were only about four or five feet long; but to see those five or six long feelers rise out a foot or two above the water, reach forward and back toward the mouth about four times a minute—ugh! They were but fifteen or twenty feet away at times and could be seen perfectly; and then looking off, why there were acres of them! Schools of four or five and schools of hundreds. Birds were feeding among them, terns, shearwaters and gulls, on small shrimps, I found on dissection. But suppose they had been those giant relatives figured so graphically in the geography of my youth. Only a shrimp would I have been to one of those big fellows. I saw dozens of the bodies of these five-footers on the beach at Corral when coming south, and deliver me from any close acquaintance with relatives as large sized as that skeleton in the museum, please!

I made my first acquaintance with the Steamer Ducks here. With most of them it was a distant acquaintance. There are two or three particular birds near town here that if ever I get rich will see me again. In that case, I'm coming down here with a motor boat capable of twenty miles an hour, and a bag of salt, and if I don't sprinkle their tails it will be because they make for the kelp instead of the open water. Though they cannot fly, my best efforts with the oars take me about two feet to their three.

It is likely I'll have to go a hundred miles farther south to make the closer acquaintance of a series.

The one species of goose I've taken here is much different from any of our California visitors. They stand about on surf-beaten rocky points like the gulls, the male pure white and the female dark. But the Cinnamon Teal swing over bunches of tules as do the flocks in fall at Los Banos, before they leave for the south and the shooting season begins. The call of the curlew, and the sweep of the sanderling flocks, carries one back to the Alameda marshes; but the hoarse penguin call, and circling albatross in view from my window, bring me back again with suddenness to the Southern Hemisphere.

Sincerely,

R. H. Beck.

Ancud, Chiloe Island, Chile, April 26, 1914.

PUBLICATIONS REVIEWED

The Birds of North and Middle America: | [etc., 8 lines] | By | Robert Ridgway, | Curator, Division of Birds. |——| Part vi. | Family Picidae—The Woodpeckers. | Family Capitonidae—The Barbets. | Family Ramphastidae—The Toucans. | Family Bucconidae—The Puff Birds. | Family Galbulidae—The Jacamars. | Family Alcedinidae—The Kingfishers. | Family Todidae—The Todies. | Family Momotidae—The Motmots. | Family Caprimulgidae—The Goatsuckers. | Family Nyctibiidae—The Potoos. | Family Tytonidae—The Barn Owls. | Family Bubonidae—The Eared Owls. |——| Washington: | Government Printing Office. | 1914. | =U. S. Nation. Mus., Bull. No. 50, Part vi, pp. xx+882, 36 plates; "issued April 8, 1914."

It is certainly gratifying to the many admirers of Mr. Ridgway to note the regular appearance of the successive portions of his great work, the first of which was published nearly fourteen years ago. The latest volume, Part vi, of content as indicated in the above transcript from the main title page, shows the same high standard of treatment as in the best of the previous volumes.*

In the six volumes which have appeared to date (as stated in the Preface, page vi, of Part vi), "are treated, in detail (that is, with full synonymies and descriptions), besides the Families above mentioned and the higher groups to which they, respectively, belong, 520 genera, 2111 species and subspecies, besides 155 extralimital genera and 478 extralimital species and subspecies whose diagnostic characters are given in the 'keys', and their principal synonymy (full synonymy in case of the genera) given in footnotes."

There are a number of interesting renditions of systematic status among the higher groups,—interpretations which would bear much discussion, mainly, in the mind of the reviewer, corroborative of Mr. Ridgway's views. Our remarks in the present connection are best confined to nomenclatural and systematic points likely to be of most interest to students of western ornithology.

The yellow-shafted flicker which occurs rarely in California pure-blooded, more often as a strain in so-called "hybrids", is referred to under the name Boreal Flicker (*Colaptes auratus borealis* Ridgway), the assumption being that our birds are winter visitants from the far north (pages 20-22). Mr. Ridgway believes that "some California specimens are doubtless hybrids of *C. auratus borealis* and *C. cafer saturatior*, whose respective ranges adjoin in northern British Columbia and southern Alaska." While the "Hybrid Flicker" has been the subject of several special essays, a new and exhaustive study of the case in the light of modern findings in chemico-physiology would, in the mind of the reviever, very probably result in a different systematic treatment of western, purely yellow-shafted, examples, as well as of "hybrids".

As already announced (Ridgway, Proc. Biol. Soc. Wash., xxiv, 1911, page 34), a new genus is founded for that section of the old genus *Melanerpes* containing the California Woodpecker. The latter becomes *Balanosphyra formicivora bairdi*. This is possibly justified in the effort to secure uniformity in rank among related bird groups. But the continued general tendency towards generic refinement does not seem to the reviewer to be in line with the development of a clear and useful system of classification.

Bangs' name, *picinus*, is adopted for the "Western Pileated Woodpecker". The bird of the Pacific Coast from northern California to Vancouver Island thus becomes *Phloeotomus pileatus picinus*.

The southern race of the White-headed Woodpecker, *Xenopicus albolarvatus gravirostris* Grinnell, not admitted to the A. O. U. *Check-List*, is given full recognition by Ridgway (page 267).

The status of the western sapsuckers re-

* For reviews of previous volumes, see: for Part i, Condor, iv, 1902, pp. 22-23; for Part ii, Condor, v, 1903, pp. 22-23; for Part iii, Condor, vii, 1905, p. 147; for Part iv, Condor, x, 1908, p. 53; for Part v, Condor, xiv, 1912, p. 110.

mains as held to by the A. O. U. Committee. But Ridgway remarks (foot-note, page 279) that "if *S. nuchalis* is to be considered as merely a sub-species of *S. varius* then, most certainly, must *S. ruber* also." He inclines to the belief that all three are distinct species, the occasional intermediates being viewed as hybrids, much as in the case of the flickers. While *S. v. daggetti* is synonymized under *S. ruber ruber*, a foot-note (page 286) is indicative of Ridgway's general attitude of open-mindedness. He says: "Mr. Swarth [Univ. Calif. Publ. Zool., x, 1912, page 35] seems to have made out a good case in favor of restriction of the name *ruber* to the northern form instead of the southern one. Unfortunately it is now too late for me to reopen the question."

"Western North America, east to and including Rocky Mountains; north to northern Alaska . . . ; south to western Mexico . . ." is the range assigned to the Western Belted Kingfisher, *Streptoceryle alcyon caurina* (Grinnell).

The Frosted Poor-will of the A. O. U. *Check-list* is thrown out by Ridgway, who lists the appertaining references (to *Phalaenoptilus nuttalli nitidus*) under *P. n. nuttalli*.

Our Barn Owl becomes *Tyto perlata pratincola*, this name applying to the species clear across North America and south to Nicaragua. "I am unable to discover constant differences of coloration between specimens from the eastern and western United States or between these and those from Mexico" (foot-note, page 606). *Tyto perlata perlata* is South American. *T. albus* of Europe is considered specifically distinct (page 601).

The supposed northwestern race of Sawwhet Owl, *Nyctala acadica scotaea* Osgood, is suppressed, this name appearing in the sy nonymy of *Cryptoglaux acadica* (page 633). Mr. Ridgway is unable "to make out any geographic variation in this species except a slight average difference in the hue of the brown of the upper and under parts, which is reddest in examples from the Pacific coast district", more grayish brown in those from the Rocky Mountains, and intermediate in those from the Atlantic side. These differences, as shown by present material, are not "sufficiently marked and constant to warrant subspecific division".

The Screech Owl of the Colorado Valley, named by Swarth *Otus asio gilmani*, is considered (foot-note, page 702) inseparable from the longer known *Otus asio cineraceus* (Ridgway), which ranges through southern Arizona. A new subspecies is described (page 700), *Otus asio brewsteri*, from the coast region of Oregon.

Of particular interest is Mr. Ridgway's conclusion, after adequate study of the case, that the Flammulated Screech Owl, *Otus flammeolus* (Kaup), presents absolutely no geographic variation. In other words no grounds whatever are found for recognizing a race *Otus asio idahoensis* (Merriam), which name has been allotted prominent place in western literature for over twenty years.

The Pigmy Owls along the Pacific coast are recognized as of three subspecies: *Glaucidium gnoma californicum* (Sclater), of the San Diegan district, the Sierra Nevada and the Cascades; *G. g. grinnelli* Ridgway (here newly named), of the humid coast belt from Monterey County to the mainland of British Columbia; and *G. g. swarthi* Grinnell, of Vancouver Island. The name *vigilante*, of Grinnell, becomes a synonym of *californicum*, owing to the discovery by Ridgway that Sclater's type, still extant in the Philadelphia Academy, belongs to the interior and southern form.

Mr. Ridgway finds that the Elf Owl presents three geographic races: *Micropallas whitneyi whitneyi* (Cooper), of southeastern California, southern Arizona and southwestern New Mexico; *M. w. sanfordi*, of southern Lower California; and *M. w. idoneus* of southern Texas and northeastern Mexico. The two latter forms are here newly described and named.—J. GRINNELL.

A MONOGRAPH OF THE GENUS CHORDEILES SWAINSON, TYPE OF A NEW FAMILY OF GOATSUCKERS. By HARRY C. OBERHOLSER. [=United States National Museum, Bull. 86, April 6, 1914, pp. i-viii, 1-123, 6 plates.]

In this study of the nighthawks Mr. Oberholser has many changes to suggest in the generally accepted treatment of the group; and his researches in the genus *Chordeiles* have also incidentally resulted in important conclusions regarding certain others of the goatsuckers. The nighthawks, comprising the genus *Chordeiles*, are purely American in their distribution, while two of the three recognized species are distributed over much of that portion of America covered by the A. O. U. *Check-List*. They form an apparently well defined and circumscribed group of birds, and for various reasons afford an excellent subject for monographic treatment, there having been obvious necessity for such a study. Of the difficulties attending the work, one of the greatest was the need of a prodigious amount of material, while from the nature of the birds the average collector

gathers comparatively few specimens, and these frequently most indifferently prepared. With 1165 skins, however, the combined series of many public and private collections, the author appears to have had the subject matter sufficient to cover most of the points involved, though it is easy to appreciate his statement that the elucidation of the group "involved the expenditure of an incredible amount of time and labor".

Some of the most important of the conclusions reached by Mr. Oberholser are as follows. A new family, Chordeilidae, is erected, with *Chordeiles* as the type genus, and including also the genera *Nannochordeiles*, *Nyctiprogne*, *Lurocalis*, and *Podager*, the last four being all from outside the limits of the *Check-List*. The three species of *Chordeiles* are treated in minutest detail, *virginianus* with nine subspecies, *acutipennis* with five, and *rupestris* with three. One new subspecies of *Chordeiles virginianus* is described, *C. v. howelli*, from the central United States, breeding north to Wyoming, south to central Texas. *C. v. aserriensis* Cherrie, based on winter birds from Central America, is revived and considered applicable to the form breeding in southern Texas and extreme northeastern Mexico. Of *Chordeiles acutipennis* a new subspecies, *C. a. micromeris*, is described from Central America, and another, *C. a. inferior*, from Lower California. *Chordeiles rupestris*, confined to South America, is, from the paucity of material, necessarily passed over in a somewhat cursory manner, compared with the treatment accorded the others, but one new subspecies is described here also, *C. r. zaleucus*, from Peru.

In the introductory pages of the work there are some important discussions relative to branches of the Caprimulgi other than *Chordeiles*. The genus *Antrostomus* is divided, only one species, *carolinensis*, being left in *Antrostomus*, while a new genus, *Stochalcis*, is described, with *Caprimulgus vociferus* Wilson as type, and inclusive of certain other species heretofore referred to *Antrostomus*, mostly Middle and South American in their distribution. Mr. Oberholser considers *Antrostomus vociferus arizonae* Brewster to be a recognizable form, and distinct from *A. v. macromystax*, under which it is synonymized by the A. O. U. Committee.

Altogether it seems evident that this study is one of the most important contributions thus far made to the literature of American Caprimulgi. There will probably be differences of opinion as to the need of separately naming certain of the forms here recognized, but this is not a feature to detract from the value of such a work. The trained specialist, laboring on some special group, and poring for weeks or months in painstaking study over large series of specimens, will certainly see things that the more casual observer can not be expected to appreciate, and it will doubtless always be impossible to bring everyone in accord in such matters. The conclusions of a student such as Mr. Oberholser, reached after most careful consideration of ample material, are deserving of the utmost respect; and doubtless the majority of ornithologists will be quite content to accept his decisions, at least until some future worker with greater opportunities arises to revise the subject further. On the other hand, it is possible to see how it may not be expedient to admit in such a manual as the A. O. U. *Check-List* all of the finely differentiated geographical races, based on average differences, which the specialist feels obliged to describe, such action not necessarily implying disbelief in the statements of the latter. In other words, the student, in order to properly elucidate his problem, may feel obliged to attach a name to a race which, as far as concerns the ordinary user of an average manual of the subject, had best be omitted from such a catalogue.

To the present reviewer the work under consideration appears to be most excellent in every way. It is well conceived and carefully executed to the smallest detail; the subject matter is divided and set off in such a way as to make everything readily accessible; while the facts themselves and the deductions derived therefrom are presented by one who is evidently master of his subject.—H. S. SWARTH.

MINUTES OF COOPER CLUB MEETINGS

SOUTHERN DIVISION

APRIL.—The regular meeting of the Southern Division was held at the Museum of History, Science, and Art, Thursday evening, April 30, 1914, with the following members in attendance. Messrs. Chambers, Daggett, Edwards, Miller, Morcom, Rich, Robertson, Swarth, Willett, and Wyman. In the absence of the president, vice-president Robertson took the chair. The minutes of the March meeting were read and approved, followed by the minutes of the Northern Division for April. The following new members were elected: C. A. Brant, El Tovar, Grand Canyon, Arizona; William T. Martin,

Oakland; Halstead G. White, Claremont. New names presented were: J. Howard Richey, Pasadena, and Edward E. Armstrong, Chicago, both proposed by W. Lee Chambers. *The resignation of B. W. Arnold, Albany, New York, was read and accepted.*

No papers were presented, but there was more or less discussion of recent finds and observations by such of the members as had been doing field work.—H. S. SWARTH, *Secretary.*

MAY.—The regular meeting of the Southern Division was held at the Museum of History, Science, and Art, Thursday evening, May 28, 1914, with President Law in the chair, and with the following attendance: Messrs. Bent, Chambers, Colburn, Daggett, Edwards, Eggleston, Law, Rich, Robertson, Snyder, Stivers, Swarth, Wood, and Wyman. Mr. I. D. Nokes was a visitor. The minutes of the April meeting were read and approved. Two members were elected, Mr. J. Howard Richey, of Pasadena, and Mr. Edward E. Armstrong, of Chicago, both presented by W. Lee Chambers. New names to be acted upon were Miss Charlotte Bowditch, of Santa Barbara, presented by W. Lee Chambers, and Dr. Irwin D. Nokes, of Los Angeles, presented by A. E. Colburn.

The secretary was in receipt of several communications from the acting secretary of the Pacific Division of the American Association for the Advancement of Science, relating to the Cooper Club's relations to the Association, the proposed new constitution of the latter, and in regard to the meeting to be held in San Francisco in August, 1915. These questions were discussed at some length, but were finally left to the secretary, to be acted upon, at his discretion, but in general accord with the sentiments of the Club as expressed in the course of the discussion.

The fortunate presence in Los Angeles of Mr. A. C. Bent, of Taunton, Massachusetts, gave the Club members an opportunity of learning something of his plans and work on the life histories of North American birds. Mr. Bent kindly responded most fully to the request for an informal relation of what has thus far been accomplished, and his account of the history of the undertaking was given the closest attention.

The members then adjourned to inspect specimens and exhibits in the Museum.—H. S. SWARTH, *Secretary.*

NORTHERN DIVISION

APRIL.—The regular monthly meeting of the Northern Division of the Cooper Ornithological Club was held at the Museum of Vertebrate Zoology, Berkeley, California, *April 23, 1914, at 8 P. M. President Bryant was in the chair, with the following members present: Mrs. Allen, Miss Atsatt, Messrs. Camp, Carriger, Chandler, Daggett, Grinnell* and Storer. Miss Susan B. Culver and Messrs. L. R. Dice, C. W. Fender and B. H. Pratt were present as visitors. The minutes of the Northern Division for March were read and approved, followed by the reading of the minutes of the Southern Division for March.

Miss Edna A. Andrews, Berkeley, California, Henry F. Bailey, Santa Cruz, California, and James A. MacDonald, Lathrop, California, and the persons proposed at the Southern Division meeting for February were elected to membership. The following were proposed for membership: Miss Ada Ethel Crane, 7 Ross St., San Rafael, by H. C. Bryant; Miss Susan B. Culver, 2908 Channing Way, Berkeley, by Mrs. Amelia S. Allen; R. A. Emmons, Bureau of Biological Survey, Washington, D. C., by Alex Wetmore; Frank H. Lord, 726 Schrader St., San Francisco, by F. E. Newberry; and H. L. Pillsbury, 73 Cedar Ave., Long Beach, by W. P. Taylor, and two names proposed at the Southern Division in March.

Mr. Grinnell suggested that a committee be appointed to confer with the committee of the A. O. U. in regard to a joint meeting of the Cooper Ornithological Club and the American Ornithologists' Union in San Francisco in 1915. It was moved and carried that a committee of three, Mr. Joseph Mailliard to be one member, be appointed to consider the matter. Mr. Storer reported that arrangements were being perfected for a meeting of members of the Cooper Club at the general session of the Pacific Association of Scientific Societies in Seattle in May.

Mr. Grinnell then presented a paper on "Adaptations in Structure and Habits in Boreal Birds". A very interesting discussion followed the presentation of the paper.

Mr. Daggett, a member of the Southern Division for many years, spoke briefly on the earlier years and membership of that Division. Adjourned.—TRACY I. STORER, *Secretary.*

MAY.—The regular monthly meeting of the Northern Division was held at the Museum of Vertebrate Zoology, Berkeley, California, Thursday evening, May 21, 1914. In the absence of both the president and the vice-president, Mr. Carriger was appointed

to the chair for the evening. The following members were present: Mrs. Allen, Miss Andrews, Messrs. Carriger, Grinnell, Storer and Taylor. Miss Crane and Miss Culver, and Messrs. Martens and Schaeffle were visitors. The minutes of the Northern Division for April were read and approved and the minutes of the Southern Division for April read.

The following were elected to membership: Miss Ada E. Crane, Miss Susan B. Culver, Mr. R. A. Emmons, Mr. Frank H. Lord, Mr. H. L. Pillsbury, Mr. C. A. Brant, and Mr. H. C. White. The following were proposed for membership: Mr. Ernest Schaeffle, 734 Mills Bldg., San Francisco, by Tracy I. Storer; from the Southern Division: Mr. J. Howard Richey, Pasadena, and Mr. Edward E. Armstrong, Chicago, Ill., both by W. Lee Chambers. The resignation of B. W. Arnold, Albany, New York, was accepted.

The Secretary read a letter from Mr. A. L. Barrows, Associate Secretary of the American Association for the Advancement of Science, relating to plans now being made to establish a Pacific Division of the American Association to supplant the now existing Pacific Association of Scientific Societies. The letter was accompanied by a copy of the constitution which is proposed for the Pacific Division. The Secretary outlined the salient features of the constitution which concern the Cooper Club and pointed out the relation which the Pacific Division would bear to the Club in the event that present plans are carried out. It is planned that scientific organizations may affiliate themselves with the Pacific Division in much the same way as is now done in the Pacific Association of Scientific Societies. The principal advantages under the new organization will be (1) that a permanent secretary will be in charge of the affairs of the Division, and (2) that members of affiliated organizations (such as the Cooper Club) will be given the privilege of joining the American Association without paying the initiation fee of $5.00. After some debate it was moved and carried that it be the sentiment of the Northern Division that the new arrangement is a desirable one and that the adoption of the constitution as outlined be favored.

The remainder of the evening was devoted to a report of the Permanent Committee on the Conservation of Wild Life by Mr. Taylor, the chairman, and discussion of the report by those present. Mr. Taylor first outlined the history of legislation for wild life conservation in California and dwelt with particular emphasis on the recent campaign for a no-sale law. He pointed out that legislation for wild life conservation in California to be effective at all must be enacted immediately. In the past the sportsmen have been the promoters of such legislation, such organizations as the Audubon Society and the Cooper Club having appeared on the field in comparatively recent times. The legislation in regard to protection of wild life, recently put into effect by the federal government has come to the assistance of the conservationists in the state but the relief is not all that is desired.

Mr. Ernest Schaeffle, Secretary of the California Fish and Game Commission, then spoke on the same subject giving many facts determined by the Commission. He pointed out that the pursuit of wild life in California by hunters and others yields large financial returns to many people engaged in various lines. In his opinion the initiative measure for the sale of game which will be presented to the voters of the state at the election in November, if carried, will set back the work of wild life conservation twenty to twenty-five years. If the Fish and Game Commission had been on a scientific basis in the past there would not be so many problems in wild life conservation facing the people of the state today.

A vote of thanks was extended to Mr. Schaeffle for his kindness in attending the meeting and participating in the discussion. Adjourned.—TRACY I. STORER, *Secretary.*

MEETINGS OF THE COOPER ORNITHOLOGICAL CLUB

SOUTHERN DIVISION: At the Museum of History, Science, and Art, Exposition Park, Los Angeles. Time of meeting, 8 P. M., the last Thursday of every month. Take southbound car from town, on Spring Street the car marked "University"; on Hill Street the car marked "Vermont and Georgia". Get off at Vermont Avenue and Thirty-ninth Street. Walk two blocks east to Exposition Park. The Museum is the building with the large dome.

NORTHERN DIVISION: At the Museum of Vertebrate Zoology, University of California, Berkeley. Time of meeting, 8 P. M., the third Thursday of every month. Take any train or car to the University Campus. The Museum of Vertebrate Zoology is a large corrugated iron building situated on the south side of the campus immediately north of the foot-ball bleachers.

For Sale, Exchange and Want Column.—In this space members of the Cooper Club are allowed one notice in each issue free of charge. Books and magazines can be offered for sale or exchange; bird skins and eggs can be offered in exchange, but *not for sale*. For this department address W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

FOR SALE or EXCHANGE for books new to my library: Ridgway—Orn. of Ill., vol. I, 1889. Ridgway—Birds of N. and Mid. Am., I to V inc. Cooper—Orn. of Cal., 1870. Bendire—Life Histories, I and II, 1892-95. Henshaw—Report on Ornithological Collections, 1875. Coues—Birds of the Northwest, 1874. Coues—Third Installment Orn. Bibliography, 1879. Elliot—Wild Fowl, 1898. Nelson—Report on Nat. Hist. Coll. 1887. Cook—Birds of Michigan, 1893. Fisher—Birds of Laysan, etc., 1893. The Warbler—2nd Series, I and II. The Nidiologist—nearly complete file. Orn. and Oologist—IX, X, XIII, XVII, etc. Condor—V, VI, VII, IX, X, XI, etc. Auk—XVI, bound; also XIV, XVI, XVII, XVIII, etc., parts.

WANT: Baird, Brewer and Ridgway's Water Birds. Wilson Bulletin—complete file to no. 75. Auk—I, no. 2, 3, 4; II, all; III, no. 2, 3; IV, no. 2; VI, all; VII, all; IX, XI, XXIV, XXV, XXVI, XXX. Publications of California Academy of Sciences. Journal Maine Orn. Soc. Bulletin Michigan Orn. Club. Orn. and Oologist—I to V, inc.; also VII.

If interested send for complete lists, enclosing your own.—O. P. SILLIMAN, *Castroville, Calif.*

WANTED—*Osprey*, Vol. I, no. 2. Will pay any reasonable price for a copy to complete my files. Also want *Auk*, vols. 1 to 6 and 19, and copies of Journ. Me. Orn. Soc., and Bull. Mich. Orn. Club.—DR. T. W. RICHARDS, *U. S. Navy, 1207 19th. St., N. W., Washington, D. C.*

OVERFLOW list of your duplicates wanted as follows: Random Notes on Nat. Hist. I, 2, 3; II, 12; III, 5, 6, 10, 11. Oregon Naturalist [=Naturalist, Oregon City] I, 12 (Nov.-Dec., 1894). Field and Forest I, 5, 6; II, 5, 6, 7; III, 3, 4, 6, 9, 10, 11, 12. Parts or volumes of these: Amer. Osprey, Ky. Bittern, Canisteo, N. Y.; Canadian Sportsman and Naturalist; Collectors Monthly; Forest and Field, N. Y.; Hawkeye O. & O.; Hoosier Nat.; Hummer; Loon; Maine O. & O.; Naturalist & Tax.; Observer I, 4, and Audubon Magazine II, 2.—DR. BRAISLIN, *556 Washington Ave., Brooklyn, N. Y.*

FOR EXCHANGE.—Have many personally taken sets of British eggs, chiefly of the commoner species, which I shall be pleased to exchange for American sets. Correspondence invited.—P.C. DUTTON, *26 Lichfield Road, Stone Staffs, England.*

WANTED.—Copies of any of the following publications. Nidiologist, vol. 1, no. 2, Oct., 1893; Osprey, N. S., 1902, March, April and July; Oologist, May and December, 1897, April and September, 1899; Wilson Bull., no. 4, 1894. B. H. SWALES, *Grosse Isle, Mich.*

WANTED—Number 3 of Vol. 1 The Bulletin of the Cooper Ornithological Club; will pay cash, also exchange bird skins for eggs, or eggs for eggs; particularly interested in Eagles' eggs from anywhere.—L. BROOKS, *130 School St., New Bedford, Mass.*

WANTED.—Nidiologist, vol. I, nos. 1. 2, 5, 8; vol. II, 11; Osprey, vol. III, 7.—*O. Widmanu, 5105 Von Versen Ave., St. Louis, Mo.*

WANTED.—Old United States postage stamps on the original envelopes or an old general collection of postage stamps. Have the following A1 sets to exchange for same. No. 12 1-1, 16 1-1, 29 1-2 2-2, 30a 1-1 or series, 49 1-3, 57 1-2 1-3, 74 1-2 2-2, 114.1 1-2 1-3, 122 1-4, 123b 1-3, 127 1-3, 128 1-1, 287 n-2, 293a 1-17, 296 1-10, 366 1-5, 375a 1-3, 381 1-2, 385 1-5, 470a n-4, 570 1-4, 632 n-4, 734 1-5, all personally collected; also rare coleoptera from Arizona.—VIRGIL W. OWEN, *1241 Vine St., Hollywood, Los Angeles, California.*

SKINS FOR EXCHANGE—Palæartic bird skins from Europe and Asia to exchange for North American specimens.—VIKTOR TSCHUSI, RITTER ZU SCHMIDHOFFEN, *Villa Tannenhoff bei Hallein, Salzburg, Austria.*

BLUE RAPIDS, KANSAS—*Rev. Mr. Peabody* desires breeding notes, including egg-dimensions, for: Bailey Chickadee, Pacific Nighthawk, Sierra Grouse, Stephens Fox Sparrow. Of any and all of these he would be most glad to secure eggs, in almost any condition, in exchange.

WANTED—Specimens of Cimex, "bed-bugs," from poultry, bats, pigeons, swallows, or from other birds or mammals inhabiting the Pacific States. Will determine material sent.—E. P. VAN DUZEE, *La Jolla, Calif.*

WANTED—Loomis's *Water Birds of California*, I to V inc. Particularly want no. V. Will pay cash or give good exchange. Also want Wilson Bulletin, nos. 1 to 75.—O. P. SILLIMAN, *Castroville, Calif.*

WANTED—Information of all sorts as to the breeding of ducks in California: Nesting dates, numbers of eggs in sets, proportion of young reaching maturity, areas inhabited, etc.—J. GRINNELL, *Museum of Vertebrate Zoology, Berkeley, Calif.*